

References: Geriatric Syndromes

REF ID: 1916

QM: Quality Measures

Topic 5: Evaluation/Follow-up

Standards can help plans examine their care of frail elderly patients.(2005). *Senior Care Management*, 8(2), 19-20.

Journal Article

Health plans should consider a comprehensive set of indicators to determine quality of care provided to at-risk elders. The indicators come from the Assessing Care of Vulnerable Elders (ACOVE) Project of the RAND Corporation. They address continuity of care, hospital care and pain management, as well as prevention, screening, diagnosis and management of conditions such as dementia, depression, hearing impairment and arthritis.

REF ID: 2006

Level V: Case report

Topic 4.2: Management-Behavior Therapy

Adedokun, A. O., & Wilson, M. M. (2004 Aug). Urinary incontinence: Historical, global, and epidemiologic perspectives. *Clinics in Geriatric Medicine*, 20(3), 399-407.

Historical Article. Journal Article. Review

Urinary incontinence (UI) is a devastating worldwide problem in older adults. Establishing the true prevalence and incidence of UI remains a challenge as different societies define and approach UI differently. Nevertheless, most societies share the common practice of stigmatizing elders with incontinence. Enhanced awareness of global perspectives and epidemiological trends of incontinence is a necessary pre-requisite to improving management of this distressing geriatric syndrome. [References: 45]

REF ID: 1960

Level VI: Opinion

Topic 3: Assessment

Alexopoulos, G. S. (2003; 2003). Clinical and biological interactions in affective and cognitive geriatric syndromes. *American Journal of Psychiatry*, 160(5), 811-814.

Journal; Peer Reviewed Journal

Discusses the study of geriatric psychopathology in the context of medical and neurological disorders, particularly the development of depression in Alzheimer's disease. Clinical and biological complexity make the ascertainment of symptoms and signs more difficult. Moreover, behavioral abnormalities, cognitive deficits, and physical symptoms and signs are often contributed by more than one psychiatric, neurological, or medical condition. Finally, symptoms change over time as various coexisting disease processes progress or subside. Despite the logical and experimental challenges posed by geriatric syndromes, their complexity has begun to provide meaningful clinical and biological information. (PsycINFO Database Record (c) 2006 APA, all rights reserved)

REF ID: 1957

Level VI: Opinion

Topic 3: Assessment

Alexopoulos, G. S., Schultz, S. K., & Lebowitz, B. D. (2005; 2005). Late-life depression: A model for medical classification. *Biological Psychiatry*, 58(4), 283-289.

Journal; Peer Reviewed Journal

Geriatric psychiatric syndromes might serve as the starting point for a medical classification of psychiatric disorders, because their medical and neurological comorbidity and their clinical, neuropsychological, and neuroimaging features often reflect specific brain abnormalities. Geriatric syndromes, however, consist of complex behaviors that are unlikely to be caused by single lesions. We propose a model in which aging-related changes in specific brain structures increase the propensity for

the development of certain psychiatric syndromes. The predisposing factors are distinct from the mechanisms mediating the expression of a syndromic state, much like hypertension is distinct from stroke, but constitutes a morbid vulnerability. We argue that research seeking to identify both brain abnormalities conferring vulnerability as well as the mediating mechanisms of symptomatology has the potential to lead to a medical classification of psychiatric disorders. In addition, a medical classification can guide the effort to improve treatment and prevention of psychiatric disorders as it can direct therapeutic efforts to the underlying predisposing abnormalities, the syndrome-mediating mechanisms, and to development of behavioral skills needed for coping with adversity and disability. (PsycINFO Database Record (c) 2006 APA, all rights reserved) (journal abstract)

REF ID: 1975

Level V: Case report

Topic 6: Comprehensive

Allore, H. G., Tinetti, M. E., Gill, T. M., & Peduzzi, P. N. (2005). Experimental designs for multicomponent interventions among persons with multifactorial geriatric syndromes. *Clinical Trials*, 2(1), 13-21.

Journal Article

This paper discusses issues about the design of clinical trials to test multicomponent interventions for multifactorial health conditions, such as geriatric syndromes in which more than one risk factor is related to the outcome. The issues covered include: identification and selection of modifiable risk factors related to the outcome of interest, selection of intervention components to reduce the deleterious effects of the modifiable risk factors, assignment of components of the intervention, blinding, sample size requirements and estimation of component effects. Each of these issues is explored using examples from nine illustrative multicomponent intervention trials. Statistical and clinical concerns regarding the design of multicomponent interventions are addressed. We also propose elements of multicomponent interventions for multifactorial health conditions that should be reported in publications and areas where future research is needed.

REF ID: 2013

Level V: Case report

Topic 6: Comprehensive

Amin, S. H., Kuhle, C. L., & Fitzpatrick, L. A. (2003 Sep). Comprehensive evaluation of the older woman.[see comment]. *Mayo Clinic Proceedings*, 78(9), 1157-1185.

Journal Article. Review

Nearly 50% of American women will be older than 45 years by the year 2015. Because the life expectancy of women is anticipated to extend to an average age of 81 years by 2050, the aging woman will become the predominant patient seeking health care. These statistics reveal the importance for health care providers to become familiar with the health care needs of this segment of the population. Over their life span, women are more likely to experience disease and disability and subsequently require intervention and treatment. This review is an evaluation of the older woman in the primary care setting. In the first section, which is an overall assessment of the older woman, we introduce common geriatric syndromes that should be recognized by health care professionals. We include an approach to the older woman and specific clinical tools that may be useful for comprehensive evaluation in the outpatient setting. In the second section, we discuss sex-specific illnesses as they relate to the older woman. In the third section, we provide insights on end-of-life issues, cultural competence, and socioeconomic concerns. In the last section, we summarize the key components in the evaluation and management of the older woman. The goal of this article is to provide the health care provider with a clear understanding of factors that must be considered to provide optimal care to these patients.

[References: 218]

REF ID: 2004

Level V: Case report

Topic 1: Risks

Arai, Y., & Hirose, N. (2004). Aging and HDL metabolism in elderly people more than 100 years

old. *Journal of Atherosclerosis & Thrombosis*, 11(5), 246-252.

Journal Article. Review

Epidemiological studies have enhanced the importance of high-density lipoprotein (HDL) as a risk factor for CAD, as well as disability and frailty in the oldest elderly. Therefore, HDL and molecules involved in HDL metabolism seem to be attractive candidates for longevity-promoting factors. A series of observational studies has demonstrated that the predominance of the larger, more lipid-rich HDL2 subclass is a reproducible phenotype among centenarians. This finding was recently evolved by nuclear magnetic resonance technology in quantification of lipoprotein particle size. However, results of investigations into the mechanisms underlying the lipoprotein profiles in the oldest elderly have been conflicting. Genetic variation in cholesteryl ester transfer protein (CETP), which is a carrier protein in reverse cholesterol transport, was demonstrated to have no association with longevity in one study, but to have positive impacts on large HDL particles and longevity in another. Regarding environmental factors, acute phase reactant and nutritional status are frequently associated with HDL-C levels in the oldest elderly, however, the causality of the association remains to be elucidated. Determination of the association between cognitive function and HDL in the oldest elderly is also a future task. To obtain further insight into the mechanistic roles of low HDL in the pathophysiology of geriatric syndrome, a much greater effort should be invested in this research field. [References: 42]

REF ID: 2010

Level V: Case report

Topic 3: Assessment

Balducci, L. (2003 Nov-Dec). New paradigms for treating elderly patients with cancer: The comprehensive geriatric assessment and guidelines for supportive care. *The Journal of Supportive Oncology*, 1(4 Suppl 2), 30-37.

Journal Article. Review

Strategies for treating cancer are evolving to address the growing number of elderly patients with cancer. Older patients have highly variable physiologic ages, and their treatment should be individualized for optimal outcomes. Treatment paradigms should also take into account the diversity of patients' life expectancy, functional reserve, social support, and personal preference. A Comprehensive Geriatric Assessment (CGA) is a useful tool for estimating life expectancy and tolerance of treatment and for identifying reversible factors that may interfere with cancer treatment, including depression, malnutrition, anemia, neutropenia, and lack of caregiver support. Adopting a common language to describe older patients may facilitate the design and analysis of studies to determine effective drugs and care strategies for them. Information from a CGA can guide the prescription of potentially curative therapy, determine the best use of supportive care agents, and help identify frail patients for whom palliative care is the best option. There is evidence in a number of settings that the routine use of a CGA has a positive effect on health outcomes by reducing hospitalizations, preserving functional independence, and preventing geriatric syndromes. Guidelines for supportive care are also important in treating elderly patients with cancer. Pain, caused by cancer or its treatment, is prevalent, and guidelines for its assessment and treatment should be implemented to improve quality of life. Toxicities such as neutropenia and mucositis should be managed aggressively. Growth factors reduce the incidence and severity of neutropenia and its complications in older patients, particularly when they are administered in the early cycles of chemotherapy. The development of effective strategies for the management of toxicity caused by anticancer drugs may help the elderly, as much as younger patients, expect and look forward to a positive outcome with their treatment. [References: 99]

REF ID: 1944

QM: Quality Measures

Topic 5: Evaluation/Follow-up

Bates-Jensen, B. M. (2001 Oct 16). Quality indicators for prevention and management of pressure ulcers in vulnerable elders.[see comment]. *Annals of Internal Medicine*, 135(8 Pt 2), 744-751.

Journal Article

REF ID: 1922

OM: Quality Measures

Topic 5: Evaluation/Follow-up

BatesJensen, B. M., Alessi, C. A., AlSamarrai, N. R., & Schnelle, J. F. (2003). The effects of an exercise and incontinence intervention on skin health outcomes in nursing home residents. *Journal of the American Geriatrics Society*, 51(3), 348-355.

Journal Article, Clinical Trial, Research, Tables/Charts

OBJECTIVES: To examine skin health outcomes of an exercise and incontinence intervention.

DESIGN: Randomized controlled trial with blinded assessments of outcomes at three points over 8 months. **SETTING:** Four nursing homes (NHs). **PARTICIPANTS:** One hundred ninety incontinent NH residents. **INTERVENTION:** In the intervention group, research staff provided exercise and incontinence care every 2 hours from 8:00 a.m. to 4:30 p.m. (total of four daily care episodes) 5 days a week for 32 weeks. The control group received usual care from NH staff. **MEASUREMENTS:** Perineal skin wetness and skin health outcomes (primarily blanchable erythema and pressure ulcers) as measured by direct assessments by research staff, urinary and fecal incontinence frequency, and percentage of behavioral observations with resident engaged in standing or walking. **RESULTS:** Intervention subjects were significantly better in urinary and fecal incontinence, physical activity, and skin wetness outcome measures than the control group. However, despite these improvements, differences in skin health measures were limited to the back distal perineal area, which included the sacral and trochanter regions. There was no difference between groups in the incidence rate of pressure ulcers as measured by research staff, even though those residents who improved the most on fecal incontinence showed improvement in pressure ulcers in one area. **CONCLUSION:** A multifaceted intervention improved four risk factors related to skin health but did not translate into significant improvements in most measures of skin health. Even if they had adequate staffing resources, NHs might not be able to improve skin health quality indicators significantly if they attempt to implement preventive interventions on all residents who are judged at risk because of their incontinence status.

REF ID: 2000

Level V: Case report

Topic 2: Prevention; Topic 4.1: Management-General

Beer, C., & Giles, E. (2005 Aug). Hip fracture--challenges in prevention and management. *Australian Family Physician*, 34(8), 673-676.

Journal Article. Review

BACKGROUND: Hip fracture is a common "geriatric syndrome", presenting general practitioners with complex challenges in prevention and management. Hip fracture entails a high cost to both the individual and the community. **OBJECTIVE:** This article reviews the management of hip fractures focussing on prevention and treatment. The aim of the review is to help the GP address risk factors for hip fracture, understand what happens to their patients while in the hospital "black box", and to care for their patients postfracture. **DISCUSSION:** General practitioners have a key role in preventing hip fracture and optimising the ongoing care of patients who have suffered a fracture. [References: 21]

REF ID: 1906

Level IV: Non-experimental study

Topic 1: Risks

Blaum, C. S., Xue, Q. L., Michelon, E., Semba, R. D., & Fried, L. P. (2005). The association between obesity and the frailty syndrome in older women: The women's health and aging studies. *Journal of the American Geriatrics Society*, 53(6), 927-934.

Journal Article, Research, Tables/Charts

OBJECTIVES: To determine whether obesity is associated with the frailty phenotype and, if so, whether comorbid conditions or inflammatory markers explain this association. **DESIGN:** Cross-sectional analysis of baseline data from the Women's Health and Aging Studies I (1992) and II (1994), complementary population-based studies. **SETTING:** Twelve contiguous ZIP code areas in Baltimore, Maryland. **PARTICIPANTS:** Five hundred ninety-nine community-dwelling women aged 70 to 79 with

a body mass index (BMI) greater than 18.5 kg/m²). MEASUREMENTS: The dependent variables were the frailty syndrome, including prefrailty, defined as presence of one or two of five frailty indicators (weakness, slowness, weight loss, low physical activity, exhaustion), and frailty, defined as three or more indicators. Independent variables included BMI, categorized using World Health Organization criteria as normal (18.5 to \leq 30 kg/m²); chronic diseases; C-reactive protein; and serum carotenoids. RESULTS: Being overweight was significantly associated with prefrailty, and obesity was associated with prefrailty and frailty. In all frail women, regardless of BMI group, a similar pattern of three defining frailty indicators was found: slowness, weakness, and low activity (with the addition of weight loss in the normal weight group.) In multinomial regression models, obesity was significantly associated with prefrailty (odds ratio (OR)=2.23, 95% confidence interval (CI)=1.29-3.84) and frailty (OR=3.52, 95% CI=1.34-9.13), even when controlling for covariates. CONCLUSION: Obesity is associated with the frailty syndrome in older women in cross-sectional data. This association remains significant even when multiple conditions associated with frailty are considered. Prospective studies are needed to confirm this finding.

REF ID: 1969

Level V: Case report

Topic 4.1: Management-General

Blazer, D. G. (2000; 2000). Psychiatry and the oldest old. *American Journal of Psychiatry*, 157(12), 1915-1924.

Journal; Peer Reviewed Journal

Reviewed the assessment and management of psychiatric problems among the oldest old. The author reviewed the English-language literature pertinent to the characteristics of people 85 yrs old or older and the assessment and management of psychiatric disorders in this age group with a special focus on depression in the oldest old. Much of the current literature in geriatric psychiatry ignores the oldest old, focusing instead on the treatment of specific psychiatric disorders with unimodal or bimodal therapies. In contrast, geriatric medicine has focused on geriatric syndromes, functional status, comprehensive geriatric assessment, and multimodal intervention. The author describes an approach to treating the oldest old that incorporates depression as an example. Comprehensive, interdisciplinary assessment and therapy were the cornerstones of geriatric psychiatry 30 yrs ago. As psychiatry has moved toward a medical model and emphasized pharmacological therapies, it has moved away from the mainstream of geriatric practice. The time has come for geriatric psychiatry to rejoin geriatric medicine so that psychiatry can recapture its roots and deliver optimal care to the oldest old. (PsycINFO Database Record (c) 2006 APA, all rights reserved)

REF ID: 1924

Level II: Individual experimental study

Topic 2: Prevention

Bonnefoy, M., Cornu, C., Normand, S., Boutitie, F., Bugnard, F., & Rahmani, A. et al. (2003 May). The effects of exercise and protein-energy supplements on body composition and muscle function in frail elderly individuals: A long-term controlled randomised study. *British Journal of Nutrition*, 89(5), 731-739.

Clinical Trial. Journal Article. Multicenter Study. Randomized Controlled Trial

Fighting against inactivity and inadequate nutritional intake are of utmost importance in the elderly. To our knowledge, the few studies which have been performed were conducted for only a short period and the results do not permit formal conclusions to be drawn. We therefore tried to fill this gap in our knowledge by determining whether an intervention combining an acceptable progressive exercise programme and nutritional supplements would be feasible for a long-term period in the very frail elderly, and would bring about concomitant benefits in body composition and muscle power. Accordingly, this exercise and nutritional combination was assessed in the frail elderly in a 9-month randomised trial with a factorial design. Fifty-seven elderly volunteers over 72 years, from sixteen retirement homes in Lyon, France participated in the study. Dietary supplements were compared with placebo, and physical exercise was compared with memory training. Main outcome measures were fat-

free mass (FFM) and muscle power. FFM was determined by labelled water, and muscle power was measured by a leg-extensor machine. At 9 months, the compliance was 63 % for exercise sessions, and 54 % for nutritional supplements. In patients with dietary supplements, muscle power increased by 57 % at 3 months (P=0.03), and showed only a tendency at 9 months; although FFM increased by 2.7 % at 9 months, the difference was not significant (P=0.10). Exercise did not improve muscle power at 9 months, but improved functional tests (five-time-chair rise, P=0.01). BMI increased with supplements (+3.65 %), but decreased with placebo (-0.5 %) at 9 months (P=0.007). A long-term combined intervention is feasible in frail elderly individuals with a good rate of compliance. Nutritional supplements and exercise may improve muscle function. Despite no significant results on FFM, due to the limited number of volunteers, combined intervention should be suggested to counteract muscle weakness in the frail elderly.

REF ID: 1996

Level V: Case report

Topic 6: Comprehensive

Boyle, D. A. (2006 Jan). Delirium in older adults with cancer: Implications for practice and research. *Oncology Nursing Forum.Online*, 33(1), 61-78.

Journal Article. Review

PURPOSE/OBJECTIVES: To provide a comprehensive review of the literature and existing evidence-based findings on delirium in older adults with cancer. **DATA SOURCES:** Published articles, guidelines, and textbooks. **DATA SYNTHESIS:** Although delirium generally is recognized as a common geriatric syndrome, a paucity of empirical evidence exists to guide early recognition and treatment of this sequelae of cancer and its treatment in older adults. Delirium probably is more prevalent than citations note because the phenomenon is under-recognized in clinical practice across varied settings of cancer care. **CONCLUSIONS:** Extensive research is needed to formulate clinical guidelines to manage delirium. A focus on delirium in acute care and at the end of life precludes identification of this symptom in ambulatory care, where most cancer therapies are used. Particular emphasis should address the early recognition of prodromal signs of delirium to reduce symptom severity. **IMPLICATIONS FOR NURSING:** Ongoing assessment opportunities and close proximity to patients' treatment experiences foster oncology nurses' mastery of this common exemplar of altered cognition in older adults with cancer. Increasing awareness of and knowledge delineating characteristics of delirium in older patients with cancer can promote early recognition, optimum treatment, and minimization of untoward consequences associated with the historically ignored example of symptom distress. [References: 212]

REF ID: 1923

QM: Quality Measures

Topic 5: Evaluation/Follow-up

Butler, J., Weingarten JP, J., Weddle, J. A., & Jain, M. K. (2003). Differences among hospitals in delivery of care for heart failure. *Journal for Healthcare Quality*, 25(3), 4-11, 39, 56.

Journal Article, CEU, Exam Questions, Research, Tables/Charts

Larger, urban teaching hospitals with larger volumes and greater availability of advanced services provide better care for certain diseases. Because such advanced services have limited importance for routine heart failure management, no hospital type is "disadvantaged." Data on 1,180 congestive heart failure patients were studied to assess the quality of care provided by various types of hospitals. Overall, there was no particular type of hospital that performed consistently better or worse across the quality indicators studied. Substantial opportunities for improvement exist among all hospital types in Tennessee.

REF ID: 1959

Level IV: Non-experimental study

Topic 1: Risks

Cacchione, P. Z., Culp, K., Dyck, M. J., & Laing, J. (2003; 2003). Risk for acute confusion in sensory-impaired, rural, long-term-care elders. *Clinical Nursing Research*, 12(4), 340-355.

Journal; Peer Reviewed Journal

Acute confusion is a common geriatric syndrome in long-term care (LTC) elders with prevalence rates of 10% to 39%. Sensory impairment, specifically vision and hearing impairment, is even more common in LTC, with prevalence rates of 40% to 90%. The purpose of this study was to investigate the risk relationship between sensory impairment and the development of acute confusion in LTC elders. Each of 114 residents underwent sensory screening and then was followed for 28 days to monitor for the onset of acute confusion. Twenty residents (17.5%) developed acute confusion, 60 residents (52.6%) were found to be visually impaired, 49 (44.1%) were hearing impaired, and 28 (24.6%) were found to be dually impaired. Significant relationships between vision impairment, odds ratio (OR) = 3.67, confidence interval (CI)(1.13, 11.92), and dual sensory impairment, OR = 2.88, CI (1.04, 8.26), with the development of acute confusion were identified. (PsycINFO Database Record (c) 2006 APA, all rights reserved)

REF ID: 1896

Level I: Systematic Reviews

Topic 1: Risks

Campbell, S. E., Seymour, D. G., Primrose, W. R., & ACMEplus Project. (2004). A systematic literature review of factors affecting outcome in older medical patients admitted to hospital. *Age and Ageing*, 33(2), 110-115.

Journal Article, Research, Systematic Review, Tables/Charts

INTRODUCTION: The ACMEplus project aims to devise a standardised system for measuring case-mix and outcome in older patients admitted to hospitals in different parts of Europe for primarily 'medical' (i.e. not surgical or psychiatric) reasons. As a first step in this project, a systematic review was carried out to identify factors which had a significant influence on outcome in such patients.

METHODS: The systematic search used Medline 1966-2000, Cinahl 1982-2000, Web of Science 1981-2000, reference lists of relevant papers and a hand search of *Age and Ageing* 1974-2000. A six-category grading system was devised to classify the 313 identified papers with regard to their relevance to the ACMEplus project, study design and power. The analysis of the 14 'category 1' papers is presented.

RESULTS: The main areas of assessment of case-mix were function, cognition, depression, illness severity, nutrition, social elements, aspects of diagnosis and demographic details. Statistically significant predictors, for the four outcome measures, listed below were: For length of stay: functional status score, illness severity, cognitive score, poor nutrition, comorbidity score, diagnosis or presenting illness, polypharmacy, age and gender. For mortality: functional status score, illness severity, cognitive score, comorbidity score, diagnosis or presenting illness, polypharmacy, age and gender. For discharge destination: functional status score, cognitive score, diagnosis or presenting illness and age. For readmission rate: functional status score, illness severity, co-morbidity, polypharmacy, diagnosis or presenting illness and age.

CONCLUSIONS: Factors affecting outcome in older medical patients are complex. When looking at outcomes of hospital admission in older people it is important not just to look at routinely available statistics such as age, gender and diagnosis but also to take into account multifaceted aspects such as functional status and cognitive function.

REF ID: 1479

Level VI: Opinion

Topic 1: Risks

Camus, V., Kraehenbuhl, H., Preisig, M., Bula, C. J., & Waeber, G. (2004; 2004). Geriatric depression and vascular diseases: What are the links? [references]. *Journal of Affective Disorders*, 81(1), 1-16.

Journal; Peer Reviewed Journal

The aims of this study were to review clinical and epidemiological evidence linking geriatric depression and vascular diseases, and to discuss the potential mechanisms that could underlie this association. Systematic review of the literature of the last 5 years through Medline database search. Papers report the following potential ways of association: (1) there is a direct influence of vascular disease, in particular, arteriosclerosis, on the incidence of depression; (2) depressive disorders have a direct impact on the

cardiovascular system; (3) depression and vascular disease share either a common pathophysiological process or genetic determinants. Vascular depression is mostly considered to be the consequence of microvascular lesions on prefrontal and subcortical regions. However, this functional neuroanatomical model offers no explanation for cases where depression has been shown to precede vascular diseases. Since cardiovascular diseases develop in a context of acquired environmental factors together with genetically determined disease, it may be postulated that geriatric depression could both result from brain lesions of vascular origin and also share some pathogenic or genetic determinants. (PsycINFO Database Record (c) 2006 APA, all rights reserved)

REF ID: 2009

Level V: Case report

Topic 3: Assessment

Chen, C. C., Kenefick, A. L., Tang, S. T., & McCorkle, R. (2004 Jan). Utilization of comprehensive geriatric assessment in cancer patients. *Critical Reviews in Oncology-Hematology*, 49(1), 53-67.

Journal Article. Review

A growing and diverse aging population, recent advances in research on aging and cancer, and the fact that a disproportional burden of cancer still occurs in people aged 65 years and older have generated great interest in delivering better cancer care for older adults. This is particularly true as more survivors of cancer live to experience cancer as a chronic disease. Cancer and its treatment precipitate classic geriatric syndromes such as falls, malnutrition, delirium, and urinary incontinence. Comprehensive Geriatric Assessment (CGA), by taking all patient's needs into account and by incorporating patient's wishes for the level of aggressiveness of treatment, offers a model of integrating medical care with social support services. It holds the promise of controlling health care costs while improving quality of care by providing a better match of services to patient needs. Three decades after the CGA was initially developed in England, oncologists have begun taking notice on the potential benefits that CGA might bring to the field of geriatric oncology. This article describes the utilization of the CGA in cancer patients with an eye toward promoting interdisciplinary care for older cancer patients. To set an initial context, a search of computerized databases took place, using "comprehensive geriatric assessment" and "cancer" as keywords. A selection of literature from between 1980 and 2003 was reviewed. Additional articles were identified through the bibliography of relevant articles. [References: 120]

REF ID: 1946

QM: Quality Measures

Topic 5: Evaluation/Follow-up

Chodosh, J., Ferrell, B. A., Shekelle, P. G., & Wenger, N. S. (2001 Oct 16). Quality indicators for pain management in vulnerable elders. *Annals of Internal Medicine*, 135(8 Pt 2), 731-735.

Journal Article

REF ID: 1942

QM: Quality Measures

Topic 5: Evaluation/Follow-up

Chong, A. M., & Chi, I. (2001 Aug). The construction and validation of a scale for consumer satisfaction of residential care in hong kong. *Journal of Interprofessional Care*, 15(3), 223-234.

Journal Article. Validation Studies

Consumer satisfaction has been adopted by many service industries as an outcome measure of service quality. This paper reports and discusses the construction and validation of a set of quality indicators that have been used to measure the domains of satisfaction among residents of old age homes in Hong Kong. The quality indicators were firstly constructed through residents' focus group discussions in Hong Kong and through reference to theories of social gerontology. A team of multi-disciplinary professionals, including social workers, nurses and social gerontology researchers, then reviewed the indicators. Residents' views and reactions to the indicators were also solicited through face-to-face interviews with 20 residents. The 55-item scale was then validated and modified to 35 items after a pilot study of 98 residents. Finally, the indicators were used in a study of 405 residents selected by stratified random

sampling. A 28-item scale representing nine quality indicators for the residential home service was finally validated. The paper concludes with recommendations on the use of this set of quality indicators to promote service quality in residential care.

REF ID: 1939

OM: Quality Measures

Topic 5: Evaluation/Follow-up

Chou, S. Y. (2002 Mar). Asymmetric information, ownership and quality of care: An empirical analysis of nursing homes. *Journal of Health Economics*, 21(2), 293-311.

Evaluation Studies. Journal Article

Theoretically, when asymmetric information exists, nonprofit organizations, due to the attenuation of the property right, provide better quality of service than do the for-profits. Despite extensive theoretical examination of the behavior of nonprofits, there has been very little empirical testing of the plausibility of these theories. This article addresses the effect of ownership type on the quality of service in the nursing home industry, an environment particularly conducive to identifying the existence of asymmetric information. The study shows that the differences between for-profit and nonprofit homes do become manifest when asymmetric information is present.

REF ID: 1952

OM: Quality Measures

Topic 5: Evaluation/Follow-up

Chow, T. W., & MacLean, C. H. (2001 Oct 16). Quality indicators for dementia in vulnerable community-dwelling and hospitalized elders. *Annals of Internal Medicine*, 135(8 Pt 2), 668-676.

Journal Article

REF ID: 1928

Level II: Individual experimental study

Topic 4.1: Management-General

Coleman, E. A., Grothaus, L. C., Sandhu, N., & Wagner, E. H. (1999 Jul). Chronic care clinics: A randomized controlled trial of a new model of primary care for frail older adults.[see comment]. *Journal of the American Geriatrics Society*, 47(7), 775-783.

Clinical Trial. Journal Article. Randomized Controlled Trial

OBJECTIVE: To determine whether a new model of primary care, Chronic Care Clinics, can improve outcomes of common geriatric syndromes (urinary incontinence, falls, depressive symptoms, high risk medications, functional impairment) in frail older adults. **DESIGN:** Randomized controlled trial with 24 months of follow-up. Physician practices were randomized either to the Chronic Care Clinics intervention or to usual care. **SETTING:** Nine primary care physician practices that comprise an ambulatory clinic in a large staff-model HMO in western Washington State. **PARTICIPANTS:** Those patients aged 65 and older in each practice with the highest risk for being hospitalized or experiencing functional decline. **INTERVENTION:** Intervention practices (5 physicians, 96 patients) held half-day Chronic Care Clinics every 3 to 4 months. These clinics included an extended visit with the physician and nurse dedicated to planning chronic disease management; a pharmacist visit that emphasized reduction of polypharmacy and high-risk medications; and a patient self-management/support group. Control practices (4 physicians, 73 patients) received usual care. **MEASUREMENTS:** Changes in self-reported urinary incontinence, frequency of falls, depressive symptoms, physical function, and satisfaction were analyzed using an intention-to-treat analysis adjusted for baseline differences, covariates, and practice-level variation. Prescriptions for high-risk medications and cost/utilization data obtained from administrative data were similarly analyzed. **RESULTS:** After 24 months, no significant improvements in frequency of incontinence, proportion with falls, depression scores, physical function scores, or prescriptions for high risk medications were demonstrated. Costs of medical care including frequency of hospitalization, hospital days, emergency and ambulatory visits, and total costs of care were not significantly different between intervention and control groups. A higher proportion of intervention patients rated the overall quality of their medical care as excellent compared with control patients (40.0% vs 25.3%, $P = .10$). **CONCLUSIONS:** Although intervention patients expressed high

levels of satisfaction with Chronic Care Clinics, improved outcomes for selected geriatric syndromes were not demonstrated. These findings suggest the need for developing greater system-wide support for managing geriatric syndromes in primary care and illustrate the challenges of conducting practice improvement research in a rapidly changing delivery system.

REF ID: 1910

Level VI: Opinion

Topic 3: Assessment

Conn, D. K. (2005). Collaborative care depression management for older adults: Level of comorbidity does not affect outcome. *Evidence-Based Mental Health*, 8(4), 105.

Journal Article, Abstract, Commentary

critique of Original Study: Harpole LH, Williams JW Jr., Olsen MK, Stechuchak KM, Oddone E, Callahan CM, Katon WJ, Lin EH, Grypma LM, Unutzer J. Improving depression outcomes in older adults with comorbid medical illness. *GEN HOSP PSYCHIATRY* 2005 Jan-Feb; 27(1): 4-12 (research)

Does comorbid medical illness modulate the effectiveness of collaborative care management for depression in older adults? Design: Randomised controlled trial. Allocation: Not clear. Blinding: Single blind (assessors blind to study assignment). Follow up period: Twelve months. Setting: Eighteen primary care clinics in the United States; time period not stated. Patients: 1801 people aged over 60 years old, with current major depression or dysthymia (DSM-IV). Each participant's number of chronic medical comorbidities diagnosed or treated over the previous three years was ascertained. Exclusion criteria included: history of bipolar disorder or psychosis, current treatment by a psychiatrist, current drinking problems or severe cognitive impairment, or acute risk of suicide. Intervention: Improving Mood: Providing Access to Collaborative Treatment (IMPACT) intervention or usual care. Participants receiving IMPACT collaborative care management were assigned a depression clinical specialist (DCS; either a nurse or psychologist) who provided participant education and worked with the participant and healthcare professionals (the participant's physician, a liaison primary care expert, and a psychiatrist) to plan and monitor the participant's care. Treatment followed a stepped care algorithm and could include antidepressants, or psychotherapy provided by the DCS (6--8 sessions of problem solving treatment). The participant had weekly or biweekly contact with the DCS during acute treatment, and monthly thereafter. Outcomes: Severity of depression (Symptom Checklist-90 (SCL-20) score); remission of depression (SCL-20 score \geq 50% decrease in SCL-20 from baseline), and functional status (Mental Component Score of the Short Form 12). Differences between the intervention and usual care were calculated for all participants, and also for the subpopulation with two comorbidities (the first quartile) and the subpopulation with five comorbidities (the third quartile). To assess the effect of comorbidity on treatment effect, between group treatment differences were compared for these two subpopulations. Patient follow up: 83% at 12 months' follow up. MAIN RESULTS Overall, collaborative care management improved depressive symptoms ($p < 0.001$), functional status, and remission and response rates compared with usual care over 12 months. Participants' number of comorbidities had no effect on the efficacy of the intervention at 12 months (comparison of between group differences in subpopulation with two comorbidities v subpopulation with five comorbidities: depressive symptoms $p = 0.45$; remission rate $p = 0.29$; response rate $p = 0.46$; functional status $p = 0.83$). CONCLUSIONS The level of comorbidity in depressed older adults does not modulate the effectiveness of collaborative care management.

REF ID: 1905

Level V: Case report

Topic 4.1: Management-General

Costello, J. (2002). Do not resuscitate orders and older patients: Findings from an ethnographic study of hospital wards for older people. *Journal of Advanced Nursing*, 39(5), 491-499.

Journal Article, Practice Guidelines, Research

Background and aim. This paper reports on the findings from an ethnographic study involving three wards in two hospitals in the Northwest of England and focuses on the controversial issue of Do Not

Resuscitate (DNR) orders. The study aimed to explore the way in which terminal care was provided to older patients and examined the way in which DNR orders were a socially constructed part of the practices of both nurses and doctors. Method. An ethnographic approach was adopted that used participant observation and semi-structured interviews with nurses and doctors. A purposive sample of 28 qualified nurses and five medical staff were interviewed. The decision-making process of DNR orders became the focus of the interview questions. Findings. The findings reveal that DNR decision-making was largely socially constructed from the interactions of hospital staff. Patients were not asked their preference and were excluded from any decision-making about Cardiopulmonary Resuscitation (CPR) or DNR orders. Two major findings emerge. First, DNR orders and the non-use of CPR could be seen as a form of medical beneficence, resulting from the often described paternalistic attitudes of hospital doctors. Second, there was a clear indication that DNR orders and the non-use of CPR for certain patients was based on improving the quality of patients' lives. Conclusion. The study raises issues about the quality of care received by frail older patients whom the nurses felt would not survive a futile medical procedure. The conclusion considers the need for hospitals to formulate and implement CPR policies, particularly in the prevailing climate in which patients are encouraged to become active participants in their own health care.

REF ID: 1895

Level I: Systematic Reviews

Topic 4.1: Management-General

Coventry, P. A., Grande, G. E., Richards, D. A., & Todd, C. J. (2005). Prediction of appropriate timing of palliative care for older adults with non-malignant life-threatening disease: A systematic review. *Age and Ageing*, 34(3), 218-227.

Journal Article, Research, Systematic Review, Tables/Charts

BACKGROUND: most people in contemporary western society die of the chronic diseases of old age. Whilst palliative care is appropriate for elderly patients with chronic, non-malignant disease, few of these patients access such care compared with cancer patients. Objective referral criteria based on accurate estimation of survival may facilitate more timely referral of non-cancer patients most appropriate for specialist palliative care. **OBJECTIVE:** to identify tools and predictor variables that might aid clinicians estimate survival and assess palliative status in non-cancer patients aged 65 years and older. **METHODS:** systematic review and quality assessment using criteria modified from the literature. **RESULTS:** 11 studies that evaluated prognoses in hospitalised and community-based older adults with non-malignant disease were identified. Key generic predictors of survival were increased dependency of activities of daily living, presence of comorbidities, poor nutritional status and weight loss, and abnormal vital signs and laboratory values. Disease-specific predictors of survival were identified for dementia, chronic obstructive pulmonary disorder and congestive heart failure. No study evaluated the relationship between survival and palliative status. **CONCLUSION:** prognostic models that attempt to estimate survival of < or = 6 months in non-cancer patients have generally poor discrimination, reflecting the unpredictable nature of most non-malignant disease. However, a number of generic and disease-specific predictor variables were identified that may help clinicians identify older, non-cancer patients with poor prognoses and palliative care needs. Simple, well-validated prognostic models that provide clinicians with objective measures of palliative status in non-cancer patients are needed. Additionally, research that evaluates the effect of general and specialist palliative care on psychosocial outcomes in non-cancer patients and their carers is needed.

REF ID: 2008

Level V: Case report

Topic 4.3: Management-Medication

Crentsil, V. (2004 Apr). The pharmacogenomics of alzheimer's disease. *Ageing Research Reviews*, 3(2), 153-169.

Journal Article. Review

Alzheimer's disease (AD) is a neurodegenerative disorder mostly affecting geriatric patients worldwide. The high emotional and economic impact of AD on patients, families, and the society has made AD one

of the paramount geriatric syndromes. Efforts to find disease-modifying therapy have not yet been rewarding. Despite our increasing appreciation of the role of genetics in AD pathogenesis, pharmacogenomic approaches to uncover drug targets have not been extensively explored. The current knowledge of the genetics of both familial and non-familial (sporadic) AD, and the emerging data on the effect of Apolipoprotein E (ApoE) alleles on the response to AD therapeutic agents, is evidence that the potential utility of pharmacogenomics may not be limited to the familial AD (FAD) but provide answers for AD as a whole. The apparent inability of presently available drugs to alter the course of AD could be a signal that it is time to change the way we think about AD therapeutics. Copyright 2003 Elsevier Ireland Ltd. [References: 75]

REF ID: 1913

Level VI: Opinion

Topic 4.1: Management-General

Cromwell, S. L. (2001). In older patients with late stage cancer, specialised home care by nurses improved survival after surgery... commentary on McCorkle R, Strumpf NE, Nuamah IF, et al. A specialized home care intervention improves survival among older post-surgical cancer patients. J AM GERIATR SOC 2000 dec;48:1707-13. Evidence-Based Nursing, 4(3), 90.

Journal Article, Abstract, Commentary, Tables/Charts

critique of McCorkle R, Strumpf NE, Nuamah IF, et al. A specialized home care intervention improves survival among older post-surgical cancer patients. J AM GERIATR SOC 2000 Dec;48:1707-13

QUESTION: In older patients, does specialised home care by advanced practice nurses (APNs) increase survival after cancer surgery more than standard care? Design Randomised {allocation concealed}*, blinded {outcome assessors}* controlled trial with follow up of 44 months. Setting An urban academic health centre in Philadelphia, Pennsylvania, USA. Patients 375 patients (52% women) who were \geq 60 years of age, diagnosed with a solid tumour \pm 6 months after surgery. Exclusion criteria were non-cancer related surgery, discharge to an institution, or no baseline data before discharge. Follow up was complete. Intervention 190 patients were allocated to specialised home care. APNs provided comprehensive clinical assessments, monitoring, and teaching to patients and their family caregivers over a 4 week period. Nurses made 3 home visits and 5 telephone calls. Nurses followed guidelines to monitor the physical, emotional, and functional status of patients; provided direct care; assisted in obtaining services from the community; and provided teaching, counselling, and support during the recovery period. 185 patients were allocated to standard care consisting of postoperative care in the hospital and routine follow up in outpatient clinics after discharge. Main outcome measure Length of survival. Main results By 44 months, 41 patients (22%) in the home care group and 52 patients (28%) in the standard care group had died. Patients receiving home care lived longer than those receiving standard care (hazard ratio [HR] 2.04, 95% CI 1.33 to 3.12, $p=0.001$, adjusted for stage of disease at diagnosis and total length of stay in hospital for surgery) (tableTT). Although patients with late stage cancer had a greater risk for death (adjusted HR 4.55, CI 2.92 to 7.08, $p<0.001$), home care improved their 2 year survival ($p<0.05$). Home care did not improve 2 year survival for patients with early stage cancer ($p=0.93$)*. Conclusions Older patients with late stage cancer who received specialised home care from nurses had higher survival rates than patients who received standard care. Survival rates did not differ between care groups for patients with early stage cancer. Information/data provided by author. [Original article accession number: 2001029617 (clinical trial, research, tables/charts)]

REF ID: 1970

Level IV: Non-experimental study

Topic 1: Risks

Di Fazio, I., Franzoni, S., Frisoni, G. B., Gatti, S., Cornali, C., & Stofler, P. M. et al. (2006 May). Predictive role of single diseases and their combination on recovery of balance and gait in disabled elderly patients. Journal of the American Medical Directors Association, 7(4), 208-211.

Journal Article

OBJECTIVES: In the elderly population, chronic diseases are common determinants of mobility

limitations and comorbidity consistently shows a strong association with functional status. This study was designed to evaluate the role of single chronic diseases and of their combination on functional recovery after rehabilitative treatment in disabled elderly patients. DESIGN: With respect to the difference in magnitude of their disabling effect, diseases were classified into 2 groups: "more disabling" diseases (COPD, heart failure, peripheral artery diseases, diabetes, and not life-threatening cancer) and "less disabling" diseases (anemia, kidney, gastrointestinal, and liver diseases). SETTING: 35-bed Geriatric Evaluation and Rehabilitation Unit. PARTICIPANTS: We studied 710 patients (age 77.8 +/- 7.4 years, 76.2% females), consecutively admitted for stroke, Parkinson's disease, and osteoarthritis. MEASUREMENTS: A multidimensional evaluation for mobility (Tinetti-score), cognitive status (MMSE), and somatic health (Greenfield's Individual Disease Severity Index-IDS, Burden of diseases-BoD) was performed. Functional recovery was decided based on the Delta-Tinetti, which is the difference of the values between admission and discharge. RESULTS: We tested, in a multivariate regression model, the predictive role of single chronic conditions and of their combinations on functional recovery, after having adjusted for which diseases are direct causes of disability (stroke, Parkinson's disease, and osteoarthritis) and other potential predictors (age, sex, cognitive function, depressive symptoms, albumin, and c-reactive protein). A negative prediction of functional recovery was expressed by the "more disabling" diseases group. The determinants of poor recovery were characterized by the combination of "more disabling diseases" rather than single condition effects, independently by age, cognitive, and functional status on admission. CONCLUSION: Our study adds a new perspective about the role of COPD, heart failure, peripheral artery diseases, diabetes and not life-threatening cancer on functional recovery, emphasizing their combined impact in elderly people.

REF ID: 1892

Level VI: Opinion

Topic 4.1: Management-General

Diabetes UK. Diabetes Care Advisory Committee. Nutrition Sub-Committee. (2003). The dietitians challenge: The implementation of nutritional advice for people with diabetes. *Journal of Human Nutrition and Dietetics*, 16(6), 421-456.

Journal Article, CEU, Exam Questions, Practice Guidelines, Tables/Charts

The evidence base for current nutritional recommendations has been extensively reviewed on behalf of the European Association for the Study of Diabetes (EASD) 1998 and the American Diabetes Association (ADA) 2002. The nutrition Sub-Committee of Diabetes UK is in general agreement with those recommendations. This paper provides consensus-based recommendations that emphasize the practical implementation of nutritional advice for people with diabetes, and describe the provision of dietetic services required to provide the information. Important changes from previous Diabetes UK (previously British Diabetic Association Diabet. Med.9, 189) recommendations include greater flexibility in the proportions of energy derived from carbohydrate and monounsaturated fat, further liberalization in the consumption of sucrose, more active promotion of foods with a low glycaemic index, and greater emphasis on the provision of nutritional advice in the context of wider lifestyle changes, particularly physical activity. Monounsaturated fats are now promoted as the main source of dietary fat because of their lower susceptibility to lipid peroxidation - and consequent lower atherogenic potential. Consumption of sucrose for patients who are not overweight can be increased up to 10% of daily energy derived from carbohydrate provided that this is eaten in the context of a healthy diet and distributed throughout the day. The role of the dietitian is outlined in facilitating lifestyle changes and evidence is presented for the effectiveness of advice provided by trained dietitians. The increasing evidence for the importance of good metabolic control and the growing requirement for measures to prevent Type 2 diabetes in an increasingly obese population will require major expansion of dietetic services if the standards in National Service Frameworks are to be successfully implemented at local level.

REF ID: 1973

Level V: Case report

Topic 4.1: Management-General

Durso, S. C. (2006 Apr 26). Using clinical guidelines designed for older adults with diabetes mellitus and complex health status. *JAMA*, 295(16), 1935-1940.

Case Reports. Clinical Conference. Journal Article

Increasingly, adults are living to an advanced age. While many enjoy good health, nearly 50% of adults older than 65 years have 3 or more chronic medical conditions. Furthermore, within any age-sex cohort, older adults exhibit widely heterogeneous health status--ranging from robust to frail. This heterogeneity and individual medical complexity makes care for older patients particularly challenging and requires both careful medical judgment and a clear understanding of the patient's personal values and goals. Most current health care guidelines are disease-specific and do not address this complexity and heterogeneity, thus limiting their utility for guiding physicians in the care of older adult patients. The "Guidelines for Improving the Care of Older Persons With Diabetes Mellitus" are the first guidelines to specifically address this complexity and provide guidance to physicians who must prioritize therapies and goals for older adults with diabetes, comorbid medical conditions, and geriatric syndromes. By providing a rationale for prioritizing recommendations and the inclusion of geriatric syndromes that impact the patient's overall health and diabetic care, these guidelines may serve as a model for the development of other guidelines targeting older adults with complex health status.

REF ID: 1933

Level I: Systematic Reviews

Topic 4.1: Management-General

Elkan, R., Kendrick, D., Dewey, M., Hewitt, M., Robinson, J., & Blair, M. et al. (2001 Sep 29). Effectiveness of home based support for older people: Systematic review and meta-analysis.[see comment]. *BMJ*, 323(7315), 719-725.

Journal Article. Meta-Analysis. Review

OBJECTIVE: To evaluate the effectiveness of home visiting programmes that offer health promotion and preventive care to older people. **DESIGN:** Systematic review and meta-analysis of 15 studies of home visiting. **PARTICIPANTS:** older people living at home, including frail older people at risk of adverse outcomes. **OUTCOME MEASURES:** Mortality, admission to hospital, admission to institutional care, functional status, health status. **RESULTS:** Home visiting was associated with a significant reduction in mortality. The pooled odds ratio for eight studies that assessed mortality in members of the general elderly population was 0.76 (95% confidence interval 0.64 to 0.89). Five studies of home visiting to frail older people who were at risk of adverse outcomes also showed a significant reduction in mortality (0.72; 0.54 to 0.97). Home visiting was associated with a significant reduction in admissions to long term institutional care in members of the general elderly population (0.65; 0.46 to 0.91). For three studies of home visiting to frail, "at risk" older people, the pooled odds ratio was 0.55 (0.35 to 0.88). Meta-analysis of six studies of home visiting to members of the general elderly population showed no significant reduction in admissions to hospital (odds ratio 0.95; 0.80 to 1.09). Three studies showed no significant effect on health (standardised effect size 0.06; -0.07 to 0.18). Four studies showed no effect on activities of daily living (0.05; -0.07 to 0.17). **CONCLUSION:** Home visits to older people can reduce mortality and admission to long term institutional care. [References: 49]

REF ID: 1899

Level I: Systematic Reviews

Topic 2: Prevention

Evans, C. J., Goodman, C., & Redfern, S. (2003). Maintaining independence in the cognitively intact elderly care home population: A systematic review of intervention trials. *Reviews in Clinical Gerontology*, 13(2), 163-174.

Journal Article, Research, Systematic Review, Tables/Charts

REF ID: 1901

Level I: Systematic Reviews

Topic 3: Assessment

Evers, S., & Goadsby, P. J. (2003). Hypnic headache: Clinical features, pathophysiology, and treatment. *Neurology*, 60(6), 905-909.

Journal Article, Research, Systematic Review, Tables/Charts

Hypnic headache has been described in several case reports since 1981 and is regarded as an idiopathic headache disorder. In this review of 71 cases in the literature, the clinical features, neurophysiologic including polysomnographic findings, and treatment procedures are analyzed and the pathophysiology of this condition, which remains however speculative, is discussed. There is some evidence that hypnic headache is related to REM sleep. The analysis shows that hypnic headache most probably is an entity among the idiopathic headache disorders unassociated with structural lesions and does not belong to the trigeminal-autonomic cephalalgias. Lithium shows the best efficacy; indomethacin, flunarizine, and caffeine may also be useful.

REF ID: 1927

Level II: Individual experimental study

Topic 2: Prevention

Fiatarone Singh, M. A., Bernstein, M. A., Ryan, A. D., O'Neill, E. F., Clements, K. M., & Evans, W. J. (2000). The effect of oral nutritional supplements on habitual dietary quality and quantity in frail elders. *Journal of Nutrition, Health & Aging*, 4(1), 5-12.

Clinical Trial. Journal Article. Randomized Controlled Trial

BACKGROUND: Frail institutionalized elders have a high prevalence of nutritional risk factors, undernutrition, weight loss, and nutrition-related morbidity and excess mortality. Little information is available on effective means to intervene in this setting. **HYPOTHESES:** We tested the hypothesis that addition of multinutrient oral supplements to the diet of frail elders would improve their overall nutritional status and functional level. **METHODS:** Fifty nursing home residents aged 88+/-1 yr. were followed for 10 weeks in the course of a randomized controlled trial of supplementation with a multinutrient liquid supplement vs. a non-nutritive placebo drink. Three-day food weighing was used to analyze their habitual dietary intake before and during the final week of the intervention. Nutritional status was further assessed with nutritional biochemistries, anthropometric measurements, and body composition analysis as well as physical and functional performance tests. **RESULTS:** The nutritional supplement was consumed with high compliance, but did not significantly augment total caloric intake. Supplementation was associated with significant reductions in total energy, protein, fat, water, fiber, and many vitamins and minerals in the habitual diet of these nursing home residents. Nutritional status improved in terms of folate levels in serum, but no other measured vitamin or mineral indices. Body composition analysis revealed a small gain in weight, increases in fat stores, but no improvement in lean tissue mass associated with supplementation. No physical performance or functional gains were associated with supplementation. **CONCLUSION:** Short-term nutritional supplementation in elders at nutritional risk is offset by simultaneous reduction in voluntary food intake. It seems likely that changing other components of energy expenditure such as physical activity levels or basal metabolism may be required to produce overall improvements in nutritional intake in this setting.

REF ID: 123

Level I: Systematic Reviews

Topic 3: Assessment

Topic 1: Risks

Fick, D. M., Agostini, J. V., & Inouye, S. K. (2002; 2002). Delirium superimposed on dementia: A systematic review. *Journal of the American Geriatrics Society*, 50(10), 1723-1732.

Journal; Peer Reviewed Journal

The purpose of this paper was to conduct a systematic review of the medical literature on delirium superimposed on dementia, to review studies on prevalence, associated features, outcomes, and management. Areas of controversy and gaps in our knowledge are highlighted. Fourteen articles were reviewed from a search of MEDLINE from January 1966 through February 2002 for research studies with primary sources of data. Two of the articles specifically assessed for delirium in Alzheimer's disease or related dementia. The prevalence of delirium superimposed on dementia ranged from 22% to 89% of hospitalized and community populations aged 65 and older with dementia. To date, only one reported study systematically identified associated factors and interventions, but several studies

examining outcomes have found that adverse events are associated with delirium in persons with dementia, including accelerated and long-term cognitive and functional decline, need for institutionalization, rehospitalization, and increased mortality. This paper highlights the dearth of research on delirium superimposed on dementia and stresses the importance of early recognition and prevention. (PsycINFO Database Record (c) 2005 APA, all rights reserved)

REF ID: 1962

Level V: Case report

Topic 3: Assessment

Flacker, J. M. (2003; 2003). What is a geriatric syndrome anyway? [references]. *Journal of the American Geriatrics Society*, 51(4), 574-576.

Journal; Peer Reviewed Journal

Discusses the meaning of the term "geriatric syndrome". The term "geriatric syndrome" is a commonly used, but ill-defined, concept among internists and geriatricians alike. One definition of "geriatric syndrome" is a set of conditions experienced by older, particularly frail, persons that occur intermittently rather than either continuously or as single episodes. Most recently, geriatric syndromes have been viewed as conditions in which symptoms are assumed to result not solely from discrete diseases, but also from accumulated impairments in multiple systems. Unfortunately, discrepancy between traditional and geriatric medical usages of the term "syndrome" has led some to conclude that a geriatric syndrome is a usual concomitant of aging. One resolution of this problem would be to create new terminology; another approach would be to create a greater appreciation of the specific meaning of "syndrome" when applied in a geriatric medicine context. (PsycINFO Database Record (c) 2006 APA, all rights reserved)

REF ID: 1941

QM: Quality Measures

Topic 5: Evaluation/Follow-up

Forbes, S. (2001 Nov). This is heaven's waiting room: End of life in one nursing home. *Journal of Gerontological Nursing*, 27(11), 37-45.

Evaluation Studies. Journal Article

The purpose of this study was to describe the end of life in one midwestern nursing home from the perspective of residents who are chronically ill and declining, their family caregivers, and staff. Qualitative methods, including formal and informal interviews, participant observation, and health record abstraction, were used to describe the end of life for 13 nursing home residents. One dominating pattern, conflict, and five themes (i.e., communication, quality of life, staff education, teamwork, work environment) emerged as factors that influenced end-of-life care. The results of this study illustrate where and how problems within the nursing home industry, the participating nursing home, and between staff and residents influence and challenge care provided to dying residents.

REF ID: 1904

Level I: Systematic Reviews

Topic 6: Comprehensive

Freedman, V. A., Martin, L. G., & Schoeni, R. F. (2002). Recent trends in disability and functioning among older adults in the united states: A systematic review. *JAMA: Journal of the American Medical Association*, 288(24), 3137-3146.

Journal Article, Research, Systematic Review, Tables/Charts

CONTEXT: Several well-publicized recent studies have suggested that disability among older Americans has declined in the last decade. OBJECTIVES: To assess the quality, quantity, and consistency of recent evidence on US trends in the prevalence of self-rated old age disability and physical, cognitive, and sensory limitations during the late 1980s and 1990s and to evaluate the evidence on trends in disparities by major demographic groups. DATA SOURCES: We searched MEDLINE and AGELINE for relevant articles published from January 1990 through May 2002 and reviewed reference lists in published articles. STUDY SELECTION: From more than 800 titles reviewed, we selected 16 articles based on 8 unique repeat cross-sectional and cohort surveys of US prevalence trends in

disability or functioning among persons generally aged 65 or 70 years or older. DATA EXTRACTION: We evaluated survey quality according to 10 criteria, ranked the surveys as good, fair, or poor, and calculated for each outcome the average annual percent change. DATA SYNTHESIS: Among the 8 surveys, 2 were rated as good, 4 as fair, 1 as poor, and 1 as mixed (fair or poor, depending on the outcome) for assessing trends. Analyses of surveys rated fair or good showed consistency of declines in any disability (-1.55% to -0.92% per year), instrumental activities of daily living disability (-2.74% to -0.40% per year), and functional limitations. Surveys provided limited evidence on cognition and conflicting evidence on self-reported ADL (changes ranged from -1.38% to 1.53% per year) and vision trends. Evidence on trends in disparities by age, sex, race, and education was limited and mixed, with no consensus yet emerging. CONCLUSIONS: Several measures of old age disability and limitations have shown improvements in the last decade. Research into the causes of these improvements is needed to understand the implications for the future demand for medical care. PMID: 12495394 [PubMed - indexed for MEDLINE]

REF ID: 1935

QM: Quality Measures

Topic 5: Evaluation/Follow-up

Garrett, S. L., O'Brien, J. G., & Miles, T. P. (2006 Feb 7). Quality of care for vulnerable older patients.[comment]. *Annals of Internal Medicine*, 144(3), 219-20.

Comment. Letter

REF ID: 1893

Level III: Quasi-experimental study

Topic 2: Prevention

Gill, T. M., Baker, D. I., Gottschalk, M., Gahbauer, E. A., Charpentier, P. A., & de Regt, P. T. et al. (2003). A prehabilitation program for physically frail community-living older persons. *Archives of Physical Medicine and Rehabilitation*, 84(3), 394-404.

Journal Article, Clinical Trial, Protocol, Research, Tables/Charts

OBJECTIVES: To describe the development and implementation of a preventive, home-based physical therapy program (PREHAB) and to provide evidence for the safety and interrater reliability of the PREHAB protocol. **DESIGN:** Demonstration study. **SETTING:** General community. **PARTICIPANTS:** Ninety-four physically frail, community-living persons, aged 75 years or older, who were randomized to the PREHAB program in a clinical trial. **INTERVENTIONS:** The PREHAB program built on the physical therapy component of 2 previous home-based protocols. A total of 223 assessment items were linked to 28 possible interventions, including progressive balance and conditioning exercises, by using detailed algorithms and decisions rules that were automated on notebook computers. **MAIN OUTCOMES MEASURES:** The percentages of participants who were eligible for and who completed each intervention, the extent of progress noted in the balance and conditioning exercises, adherence to the training program, and adverse events. **RESULTS:** Participants who completed the PREHAB program and those who ended it prematurely received an average of 9.7 and 7.2 interventions during an average of 14.9 and 9.5 home visits, respectively. With few exceptions, the completion rate and interrater reliability for the specific interventions were high. Despite high self-reported adherence to the training program, the majority of participants did not advance beyond the initial Thera-Band level for the upper- and lower-extremity conditioning exercises, and only about a third advanced to the highest 2 levels of the balance exercises. Adverse events were no more common in the PREHAB group than in the educational control group. **CONCLUSION:** Our results support the feasibility and safety of the PREHAB program, but also show the special challenges and pitfalls of such a strategy when it is implemented among persons of advanced age and physical frailty. Copyright 2003 by the American Congress of Rehabilitation Medicine and the American Academy of Physical Medicine and Rehabilitation

REF ID: 1890

Level VI: Opinion

Topic 3: Assessment

Grbich, C., Maddocks, I., Parker, D., Brown, M., Willis, E., & Piller, N. et al. (2005). Identification of patients with noncancer diseases for palliative care services. *Palliative & Supportive Care*, 3(1), 5-14.

Journal Article, Practice Guidelines, Research, Tables/Charts

Objective: To identify criteria for measuring the eligibility of patients with end-stage noncancer diseases for palliative care services in Australian residential aged care facilities. Methods: No validated set of guidelines were available so five instruments were used: an adaptation of the American National Hospice Association Guidelines; a recent adaptation of the Karnofsky Performance Scale; the Modified Barthel Index; the Abbey Pain Score for assessment of people who are nonverbal and a Verbal Descriptor Scale, also for pain measurement. In addition, nutritional status and the presence of other problematic symptoms and their severity were also sought. Results: The adapted American National Hospice Association Guidelines provided an initial indicative framework and the other instruments were useful in providing confirmatory data for service eligibility and delivery.

REF ID: 1936

QM: Quality Measures

Topic 5: Evaluation/Follow-up

Gross, D. L., Temkin-Greener, H., Kunitz, S., & Mukamel, D. B. (2004). The growing pains of integrated health care for the elderly: Lessons from the expansion of PACE. *Milbank Quarterly*, 82(2), 257-282.

Journal Article

The early success of the demonstration Program of All-Inclusive Care for the Elderly (PACE) led to its designation as a permanent Medicare program in 1997. But the growth in the number of programs and enrollment has lagged and does not meet expectations. This article offers insights into the mechanisms influencing the expansion of PACE, from information obtained in interviews and surveys of administrators, medical directors, and financial officers in 27 PACE programs. Sixteen barriers to expansion were found, including competition, PACE model characteristics, poor understanding of the program among referral sources, and a lack of financing for expansion. This experience offers important lessons for providing integrated health care to the frail elderly.

REF ID: 1947

QM: Quality Measures

Topic 5: Evaluation/Follow-up

Grossman, J. M., & MacLean, C. H. (2001 Oct 16). Quality indicators for the management of osteoporosis in vulnerable elders.[see comment]. *Annals of Internal Medicine*, 135(8 Pt 2), 722-730.

Journal Article

REF ID: 1907

Level IV: Non-experimental study

Topic 3: Assessment

Hanlon, J. T., Artz, M. B., Pieper, C. F., Lindblad, C. I., Sloane, R. J., & Ruby, C. M. et al. (2004). Inappropriate medication use among frail elderly inpatients. *Annals of Pharmacotherapy*, 38(1), 9-14.

Journal Article, Questionnaire/Scale, Research, Tables/Charts

BACKGROUND: Inappropriate prescribing in frail elderly inpatients has not received as much investigation as in frail elderly nursing home patients. OBJECTIVE: To determine the prevalence and predictors of inappropriate prescribing for hospitalized frail elderly patients. METHODS: The study was conducted at 11 Veterans Affairs Medical Centers and involved a sample of 397 frail elderly inpatients. Inappropriate prescribing was measured by physician-pharmacist pair's consensus ratings for 10 criteria on the Medication Appropriateness Index (MAI). The MAI ratings generated a weighted score of 0-18 per medication (higher score = more inappropriate) and were summed across medications to achieve a patient score. RESULTS: Overall, 365 (91.9%) patients had > or =1 medications with > or =1 MAI criteria rated as inappropriate. The most common problems involved expensive drugs (70.0%), impractical directions (55.2%), and incorrect dosages (50.9%). The most common drug classes with

appropriateness problems were gastric (50.6%), cardiovascular (47.6%), and central nervous system (23.9%). The mean +/- SD MAI score per person was 8.9 +/- 7.6. Stepwise ordinal logistic regression analyses revealed that both the number of prescription (adjusted OR 1.28; 95% CI 1.21 to 1.36) and nonprescription drugs (adjusted OR 1.17; 95% CI 1.06 to 1.29) were related to higher MAI scores. Analyses excluding the number of drugs revealed that the Charlson index (adjusted OR 1.62; 95% CI 1.12 to 2.35) and fair/poor self-rated health (adjusted OR 1.15; 95% CI 1.05 to 1.26) were related to higher MAI scores. CONCLUSIONS: Inappropriate drug prescribing is common for frail elderly veteran inpatients and is related to polypharmacy and specific health status characteristics. PMID: 14742785 [PubMed - indexed for MEDLINE]

REF ID: 1894

Level VI: Opinion

Topic 4.1: Management-General

Hinrichs Huseboe, J. (2001). Research-based protocol: Management of constipation. *Journal of Gerontological Nursing*, 27(2), 17-28.

Journal Article, Forms, Protocol, Review, Tables/Charts

REF ID: 1920

QM: Quality Measures

Topic 5: Evaluation/Follow-up

Hirth, R. A., BanaszakHoll, J. C., Fries, B. E., & Turenne, M. N. (2004). Does quality influence consumer choice of nursing homes? evidence from nursing home to nursing home transfers. *Inquiry*.2003-, 40(4), 343-361.

Journal Article, Research, Tables/Charts

We estimated Cox proportional hazards models using assessment data from the Minimum Data Set to test whether nursing home residents and their proxies respond to quality of care by changing providers. Various indicators of poor quality increased the likelihood of transfer. Residents of for-profit homes or homes with excess capacity also were more likely to transfer. Inability to participate in care decisions and factors indicating frailty limited residents' ability to transfer. The apparent responsiveness to quality is encouraging. Nonetheless, because the absolute transfer rate is low, significant barriers to movement among nursing homes still may exist.

REF ID: 1971

Level III: Quasi-experimental study

Topic 3: Assessment

Jones, D., Song, X., Mitnitski, A., & Rockwood, K. (2005 Dec). Evaluation of a frailty index based on a comprehensive geriatric assessment in a population based study of elderly Canadians. *Aging-Clinical & Experimental Research*, 17(6), 465-471.

Controlled Clinical Trial. Journal Article. Validation Studies

BACKGROUND AND AIMS: Objectives were to develop a frailty index (FI) based on a standard comprehensive geriatric assessment (CGA) derived from a clinical examination; to assess the validity of the FI-CGA and to compare its precision with other frailty measures. METHODS: DESIGN: Secondary analysis of a prospective cohort study, with five-year follow-up data. SETTING: Second phase of the Canadian Study of Health and Aging (CSHA-2); clinical examinations were performed in clinics, nursing homes, and patients' homes. PARTICIPANTS: People selected (as either cognitively impaired cases or unimpaired controls) to receive the CSHA-2 clinical examination (n = 2305; women = 1431). MEASUREMENTS: Clinical and performance-based measures and diagnostic data were extracted to correspond to the 10 impairment domains and the single comorbidity domain of a CGA. The proportion of deficits accumulated in each domain was calculated to yield the FI-CGA. The FI-CGA was validated and its predictive ability compared with other frailty measures. RESULTS: Within the seven grades of fitness/frailty identified, subjects with greater frailty were older, less educated, and more likely to be women. The FI-CGA correlated highly with a previously validated, empirically-derived frailty index (r = 0.76). Frailty was associated with higher risk of death (for each increment in frailty, the hazard ratio, adjusted for age, sex and education, was 1.23 (95% CI 1.18-1.29) and institutionalization (HR 1.20;

1.10-1.32). CONCLUSIONS: In a population survey, the FI-CGA is a valid means of quantifying frailty from routinely collected data.

REF ID: 1663

Level I: Systematic Reviews

Topic 3: Assessment

JorstadStein, E. C., Hauer, K., Becker, C., Bonnefoy, M., Nakash, R. A., & Skelton, D. A. et al. (2005). Suitability of physical activity questionnaires for older adults in fall-prevention trials: A systematic review. *Journal of Aging and Physical Activity, 13(4), 461-481.*

Journal Article, Research, Systematic Review, Tables/Charts

The purpose of the study was to identify physical activity questionnaires for older adults that might be suitable outcome measures in clinical trials of fall-injury-prevention intervention and to undertake a systematic quality assessment of their measurement properties. PubMed, CINAHL, and PsycINFO were systematically searched to identify measurements and articles reporting the methodological quality of relevant measures. Quality extraction relating to content, population, reliability, validity, responsiveness, acceptability, practicality, and feasibility was undertaken. Twelve outcome measures met the inclusion criteria. There is limited evidence about the measures' properties. None of the measures is entirely satisfactory for use in a large-scale trial at present. There is a need to develop suitable measures. The Stanford 7-day Physical Activity Recall Questionnaire and the Community Health Activities Model Program for Seniors questionnaire might be appropriate for further development. The results have implications for the designs of large-scale trials investigating many different geriatric syndromes.

REF ID: 1930

Level I: Systematic Reviews

Topic 4.1: Management-General

Kim, Y. J., & Soeken, K. L. (2005 Jul-Aug). A meta-analysis of the effect of hospital-based case management on hospital length-of-stay and readmission. *Nursing Research, 54(4), 255-264.*

Journal Article. Meta-Analysis

BACKGROUND: Although many hospital-based case management (CM) interventions have been studied, there is little work summarizing the effectiveness of these studies. OBJECTIVES: The purpose of this study was to investigate the effect of hospital-based CM compared with usual care on length of hospital stay and readmission rate. METHOD: A meta-analytic method was employed to analyze the effect sizes of CM intervention on outcomes. Eligible studies were retrieved using computerized database searches, footnote chasing, and contact with content experts. The authors reviewed the final 12 studies, and the effect size, 95% confidence interval (CI), sensitivity, homogeneity, and publication bias were analyzed. RESULTS: The overall average weighted effect size on length of stay (LOS) was 0.094 with a 95% CI of -0.032 to 0.220. The overall odds ratio for readmission was 0.87 with a 95% CI of 0.69 to 1.04. Overall, hospital-based CM interventions were not significantly effective in reducing LOS and readmissions. However, CM for patients with heart failure (effect size of 0.241 with a 95% CI of 0.012 to 0.470) was significantly effective in reducing LOS, although it was not effective for stroke patients (effect size of -0.226 with a 95% CI of -0.542 to 0.089) and frail elders (effect size of 0.126 with a 95% CI of -0.073 to 0.324). Analysis indicated that in this meta-analysis publication bias was unlikely. DISCUSSION: The findings of this meta-analysis demonstrate a 6% decrease in readmission rate for patients who received hospital-based CM interventions. Further meta-analytic studies are needed to investigate the effectiveness of CM on other outcomes.

REF ID: 1949

QM: Quality Measures

Topic 5: Evaluation/Follow-up ; Topic 3: Assessment

Knight, E. L., & Avorn, J. (2001 Oct 16). Quality indicators for appropriate medication use in vulnerable elders. *Annals of Internal Medicine, 135(8 Pt 2), 703-710.*

Journal Article

REF ID: 1929**Level I: Systematic Reviews****Topic 3: Assessment**

Koo, B. C., Ng, C. S., U-King-Im, J., Prevost, A. T., & Freeman, A. H. (2006 Feb). Minimal preparation CT for the diagnosis of suspected colorectal cancer in the frail and elderly patient. *Clinical Radiology*, 61(2), 127-139.

Journal Article. Meta-Analysis. Review

Colorectal cancer is a common malignancy with an increased incidence in the elderly population. Traditional methods of evaluating this disease have included double contrast barium enema and colonoscopy. Unfortunately, in the frail and elderly patient, these investigations can be difficult to perform and are often not tolerated. Minimal preparation computed tomography (MPCT) of the colon has been suggested as an alternative in this patient population. In this technique, no bowel preparation is used apart from the administration of oral contrast medium. The patient is imaged only in the supine position, without per rectal insufflation of gas or barium. This article reviews the experience to date of MPCT in detecting colonic tumours, and compares its efficacy to the traditional methods. A meta-analysis of the studies allowed estimation of the pooled sensitivity of MPCT to be 83% (95% confidence interval: 76-89%), and pooled specificity to be 90% (95% CI: 85-94%). An added advantage of MPCT is the ability to identify extra-colonic pathology, and this aspect is also reviewed. In addition, the common radiological features and pitfalls in identifying colonic tumours by MPCT are discussed. [References: 60]

REF ID: 1974**Level IV: Non-experimental study****Topic 3: Assessment**

Koroukian, S. M., Murray, P., & Madigan, E. (2006 May 20). Comorbidity, disability, and geriatric syndromes in elderly cancer patients receiving home health care. *Journal of Clinical Oncology*, 24(15), 2304-2310.

Journal Article

PURPOSE: To assess the prevalence of comorbidity, disability, and geriatric syndromes, or a combination thereof, in elders with cancer receiving home health care (HHC). **PATIENTS AND METHODS:** Using the Ohio Cancer Incidence Surveillance System, we identified Ohio residents 65 years of age or older who were diagnosed with incident breast (n = 952), prostate (n = 324), or colorectal cancer (n = 1,276) during the 28-month study period, August 1999 through November 2001. We used the Outcome and Assessment Information Set, a database compiling comprehensive assessment forms completed for all HHC patients, to group individuals in independent and overlapping categories of comorbidity, disability, and geriatric syndromes on the basis of the patients' clinical condition 14 days before the date of the assessment. **RESULTS:** The proportion with no comorbidity, disability, or geriatric syndromes was 26.4% in breast cancer patients, 12.0% in prostate cancer patients, and 14.0% in colorectal cancer patients. The proportion of patients presenting all three entities at once was 11.7%, 24.7%, and 15.7%, respectively, in three cancer sites. As expected, the proportion of patients with no comorbidity, disability, or geriatric syndromes declined gradually with increasing age, and that of patients with all three entities was highest among patients 85 years or older. **CONCLUSION:** The proposed taxonomy will help us gain a more nuanced understanding of older cancer patients' clinical presentation and may lead to a more accurate identification of older patients who might benefit from standard cancer treatment, and those who might experience adverse outcomes.

REF ID: 2002**Level V: Case report****Topic 4.1: Management-General**

Kubo, H., Nakayama, K., Ebihara, S., & Sasaki, H. (2005 Mar). Medical treatments and cares for geriatric syndrome: New strategies learned from frail elderly. *Tohoku Journal of Experimental Medicine*, 205(3), 205-214.

Journal Article. Review

In Japan, there are 21 million older people above 65 years, and about 8% of them are frail elderly. Geriatrics is to study the frail elderly as to why they become frail elderly, and to treat patients properly or the remaining 92% older people not to become frail elderly. In order to promote health of the older people, geriatricians have to take deep insights for cares as well as medical treatments. With such a will, we find the way to prevent diseases in the older people. In this review, we describe medical treatments and cares for promoting successful aging. [References: 60]

REF ID: 2005

Level V: Case report

Topic 1: Risks

Kuo, H. K., & Lipsitz, L. A. (2004 Aug). Cerebral white matter changes and geriatric syndromes: Is there a link? *Journals of Gerontology Series A-Biological Sciences & Medical Sciences*, 59(8), 818-826.

Journal Article. Review

Cerebral white matter lesions (WMLs), also called "leukoaraiosis," are common neuroradiological findings in elderly people. WMLs are often located at periventricular and subcortical areas and manifest as hyperintensities in magnetic resonance imaging. Recent studies suggest that cardiovascular risk factors are associated with the development of WMLs. These lesions are associated with different geriatric syndromes such as falls, executive cognitive impairment, depressive symptoms, and urinary incontinence. Damage to associative pathways in frontal and subcortical regions due to hypoperfusion may disrupt frontal executive, motor control, and other systems, resulting in these manifestations. WMLs are associated with substantial disability and should not be considered a benign and silent condition as once believed. Interventions addressing cardiovascular risk factors should be undertaken in early or mid-life in order to prevent late-life functional impairment associated with WMLs. After these lesions develop and impair executive cognitive functions, the patient's ability to comply with a complex risk reduction program may be significantly compromised. Copyright 2004 The Gerontological Society of America [References: 98]

REF ID: 1911

Level VI: Opinion

Topic 4.3: Management-Medication

Kurzthaler, I., & Fleischhacker, W. W. (2004). Sertraline improves depression scores in the elderly in the short term, regardless of medical comorbidity status. *Evidence-Based Mental Health*, 7(3), 82.

Journal Article, Abstract, Commentary

critique of Sheikh JI, Cassidy EL, Doraiswamy PM, Salomon RM, Hornig M, Holland PJ, et al. Efficacy, safety, and tolerability of sertraline in patients with late-life depression and comorbid medical illness. *J AM GERIATR SOC* 2004 Jan; 52(1): 86-92 (research)

What are the effects of sertraline in elderly people with depression, taking comorbid medical illnesses into consideration? **METHODS:** Design: Randomised, double blind, placebo controlled trial. Allocation: Concealed. Blinding: Participants and assessors blinded. Follow up period: Eight weeks with assessments at baseline and endpoint; the three primary outcome variables were also assessed every 2 weeks. Setting: Multicentre trial in the USA; timeframe not specified. Patients: 752 people, age ≥ 60 years (75% ≥ 65) with major depressive disorder (MDD DSM-IV criteria), and scoring ≥ 18 on the Hamilton Depression Scale (HAMD) with a score ≥ 2 on item 1 (depressed mood), and a minimum of 4 weeks of symptoms. Exclusions: bipolar disorder, schizophrenia, or other psychosis; Mini-Mental State Exam (MMSE) score $\leq 50\%$ in HAMD. Safety and adverse events also assessed. Patient follow up: 97% of participants received at least one dose of study medication and were included in the ITT analysis. Safety: data presented for 80% of participants. **MAIN RESULTS:** The intention to treat analysis included 728 participants. 442 participants had medical comorbidities (vascular disease, diabetes, or arthritis) and were likely to be older, retired, widowed, female, and to have lower ratings of quality of life and functioning than those with no comorbidities ($n = 127$). Efficacy: at 8 weeks,

sertraline significantly improved depression scores compared with placebo for the overall sample (see <http://www.ebmentalhealth.com/supplemental> for table). There were no significant differences in changes of depression score from baseline between people with and without comorbidities for both the placebo and sertraline groups. Adverse events: data presented for 458 participants. More people taking sertraline discontinued the trial compared with placebo; however statistical comparisons between groups are not presented (sertraline: 25/172, 15% v placebo 11/232, 5%). Discontinuation rates were similar for people with and without comorbidities for both the sertraline and placebo groups. CONCLUSIONS: Sertraline improved depression scores in elderly people both with and without comorbidities. NOTES: Results from the 159 people without vascular disease, diabetes, or arthritis but with a current prescription or hospitalisation in the preceding year are not reported in this study. To be included in the ITT analysis, participants only had to take one dose of medication. More detailed information on the adherence rate, or number of doses taken by participants are not presented. Discontinuation rates are presented for 458/569 (80%) participants.

REF ID: 198

QM: Quality Measures [Quality indicators (Medline)/Clinical indicators (CINAHL)]

Topic 5: Evaluation/Follow-up

Laditka, J. N., Laditka, S. B., & Cornman, C. B. (2005 Jan-Feb). Evaluating hospital care for individuals with alzheimer's disease using inpatient quality indicators. *American Journal of Alzheimer's Disease & Other Dementias*, 20(1), 27-36.

Journal Article

The purpose of this study was to determine whether persons with Alzheimer's disease (AD) were at greater risk for in-hospital mortality than non-AD patients as a result of poor quality of care. The study focused on six common medical conditions that result in hospital mortality. Using 1995 to 2000 data from New York state (n = 7,021,065), analysts compared mortality risk for individuals with and without AD. Among men, adjusted odds of death were greater for those with AD for gastrointestinal (GI) hemorrhage (+52 percent), congestive heart failure (CHF) (+42 percent), hip fracture (+35 percent), and acute myocardial infarction (AMI) (+30 percent) (all p < .0001). Among women, AD did not affect risks for most conditions. The results of the study show that men with AD are at higher risk of hospital mortality for common medical conditions, which may indicate poor quality of care. Their risk of hospital death was greater than that of men without AD for AMI, CHF, hip fracture, and GI hemorrhage. Their risk was also greater than that of women with AD for CHF, pneumonia, hip fracture, and GI hemorrhage. With the exception of pneumonia, this risk difference notably exceeded the analogous difference between women and men without AD. Hospital staff should be alerted to greater mortality risk for men with AD, as this risk may indicate lower quality of care.

REF ID: 1999

Level V: Case report

Topic 4.1: Management-General; Topic 3: Assessment

Lawhorne, L. (2005 Sep). Depression in the older adult. *Primary Care; Clinics in Office Practice*, 32(3), 777-792.

Journal Article. Review

Older adults who visit the primary care physician's office often exhibit depressive symptoms. The challenge for the physician and other office staff is to determine what these symptoms mean: Loneliness? Fear? Grief? A consequence of a coexisting medical condition? A DSM depressive disorder? Or something else? Addressing ambiguous symptoms that may represent a depressive disorder may be difficult in the busy office setting. The findings of one recent study suggest that it is not lack of knowledge that impedes the recognition of depression but rather the conditions under which clinical decision making occurs. The process of ruling out medical diagnoses and opening the door to consider a mental health diagnosis can be time-consuming and circuitous, especially if the clinician is not already familiar with the patient or if the clinician who is familiar with the patient perceives insufficient time to deal with the issues raised by opening the door. The fundamental challenge for the primary care clinician as aging baby boomers inundate the health care system is to restructure office practice to

recognize, assess, and manage geriatric syndromes including depression. The underlying principle for successful restructuring is acknowledging that these syndromes have multiple causes requiring multifaceted interventions. Operationally, doing simple things consistently and well may have significant impact. By consistently recognizing biologic and psychosocial risk factors for depression, by taking a careful history (including the two-question screen), and by conducting a thorough physical examination, the office-based clinician will generally have a strong clinical hunch about the presence or absence of a depressive disorder and any comorbid medical and neuropsychiatric conditions. Armed with this information, additional laboratory and brain imaging studies and subsequent management strategies are straightforward. [References: 37]

REF ID: 2016

Level IV: Non-experimental study

Topic 3: Assessment

Lee, A. G., Beaver, H. A., Jogerst, G., & Daly, J. M. (2003 Apr). Screening elderly patients in an outpatient ophthalmology clinic for dementia, depression, and functional impairment.

Ophthalmology, 110(4), 651-657.

Clinical Trial. Journal Article

PURPOSE: To determine the feasibility of screening for depression, dementia, and functional impairment in an ophthalmology outpatient clinic. **DESIGN:** Prospective pilot survey study.

PARTICIPANTS: Fifty consecutive ophthalmology clinic outpatients. **METHODS:** Consecutive patients more than 64 years of age with visits to the comprehensive eye clinic and the neuroophthalmology clinic at the University of Iowa were assessed. Suitable subjects were asked to

complete a short questionnaire on instrumental activities of daily living, to answer a single question on depression, and to complete a clock drawing task in the office waiting room or examination room.

RESULTS: The 50 questionnaires reviewed showed that most respondents were functional (94%) in instrumental activities of daily living, had normal clock drawing results (80%), and were not depressed (80%). A significant minority, however, were identified by the screening to have functional impairment (6%), abnormal clock drawing results (20%), or depression (20%), and these patients were offered geriatric assessment. The tests were rapid (fewer than 5 minutes to perform) and easy to administer.

CONCLUSIONS: Screening for geriatric syndromes in the eye clinic was rapid, easy to perform, and detected a significant number of patients with functional disability, depression, and possible dementia.

REF ID: 1897

Level I: Systematic Reviews

Topic 6: Comprehensive

Lee, A. G., & Coleman, A. L. (2004). Research agenda-setting program for geriatric ophthalmology. *Journal of the American Geriatrics Society, 52(3), 453-458.*

Journal Article, Research, Systematic Review

The healthcare needs of an aging population of "baby boomers" (persons born between 1946 and 1964) will disproportionately affect ophthalmology. To meet this emerging need, the American Geriatrics Society and the John A. Hartford Foundation developed a research agenda-setting process for geriatric ophthalmology. A systematic literature search was performed using Medline from the years 1990 to 2000. The literature review (168 papers) was performed to determine the current state of information regarding selected issues in geriatric ophthalmology. A needs assessment for each of the identified topics was performed, gaps in the existing knowledge base were identified, and key questions for future research were proposed. A research agenda-setting process for geriatric ophthalmology might provide a structural framework for future research efforts in the field.

REF ID: 1940

QM: Quality Measures

Topic 5: Evaluation/Follow-up

Levenson, D. (2001 Nov 15). Standards can help plans examine their care of frail elderly patients. *Report on Medical Guidelines & Outcomes Research, 12(22), 9-10.*

News

REF ID: 1994

Level V: Case report

Topic 3: Assessment

Lyons, W. L. (2006 May). **Delirium in postacute and long-term care.** *Journal of the American Medical Directors Association*, 7(4), 254-261.

Case Reports. Journal Article. Review

Delirium is a classic geriatric syndrome that occurs commonly among the frail elders who make up many of the residents in postacute and long-term care facilities. The prevalence of the disorder in these settings may be increasing as a result of the pressure to reduce hospital length of stay. Clinicians often do not recognize when patients in their care are delirious, but simple and practical means exist to allow its diagnosis. Those who practice in long-term care must be knowledgeable about the risk factors for the disorder, as well as how to recognize, diagnose, prevent, and treat it. [References: 46]

REF ID: 1948

QM: Quality Measures

Topic 5: Evaluation/Follow-up

MacLean, C. H. (2001 Oct 16). **Quality indicators for the management of osteoarthritis in vulnerable elders.** *Annals of Internal Medicine*, 135(8 Pt 2), 711-721.

Journal Article

REF ID: 1900

Level I: Systematic Reviews

Topic 6: Comprehensive

MarkleReid, M., & Browne, G. (2003). **Conceptualizations of frailty in relation to older adults.** *Journal of Advanced Nursing*, 44(1), 58-68.

Journal Article, Research, Systematic Review, Tables/Charts

AIM: The aim of this article is to discuss the concept of frailty and its adequacy in identifying and describing older adults as frail. BACKGROUND: Despite the dramatic increase in use of the term 'frailty' over the past two decades, there is a lack of consensus in the literature about its meaning and use, and no clear conceptual guidelines for identifying and describing older adults as frail. Differences in theoretical perspectives will influence policy decisions regarding eligibility for, and allocation of, scarce health care resources among older adults. METHOD: The article presents a literature review and synthesis of definitions and conceptual models of frailty in relation to older adults. The first part of the paper is a summary of the synonyms, antonyms and definitions of the term frailty. The second part is a critical evaluation of conceptual models of frailty. Six conceptual models are analysed on the basis of four main categories of assumptions about: (1) the nature of scientific knowledge; (2) the level of analysis; (3) the ageing process; (4) the stability of frailty. The implications of these are discussed in relation to clinical practice, policy and research. CONCLUSION: The review gives guidelines for a new theoretical approach to the concept of frailty in older adults: (1) it must be a multidimensional concept that considers the complex interplay of physical, psychological, social and environmental factors; (2) the concept must not be age-related, suggesting a negative and stereotypical view of ageing; (3) the concept must take into account an individual's context and incorporate subjective perceptions; (4) the concept must take into account the contribution of both individual and environmental factors.

REF ID: 1956

Level IV: Non-experimental study

Topic 3: Assessment; Topic 1: Risks

Mecocci, P., von Strauss, E., Cherubini, A., Ercolani, S., Mariani, E., & Senin, U. et al. (2005; 2005). **Cognitive impairment is the major risk factor for development of geriatric syndromes during hospitalization: Results from the GIFA study.** *Dementia and Geriatric Cognitive Disorders*, 20(4), 262-269.

Journal; Peer Reviewed Journal

Objective: To detect the main factors associated with the occurrence of specific geriatric syndromes (namely pressure sores, fecal incontinence, urinary incontinence and falls) in elderly patients during

hospitalization. Design: Observational prospective study. Setting: Eighty-one community and university hospitals throughout Italy. Participants: 13,729 patients aged 65 years and more, consecutively admitted to medical or geriatric acute wards during 20 months in the period between 1991 and 1998.

Measurements: Occurrence of pressure sores, fecal incontinence, urinary incontinence and falls during the stay in hospital. Results: Pressure sores were already present in 3% of hospitalized subjects, fecal incontinence in 7.3%, while urinary incontinence, evaluated on a subgroup of total population (4,268 subjects), had a prevalence of 22.3%. During hospitalization (mean stay of 15 days), 74 subjects developed new pressure sores, 55 became fecal and 35 urinary incontinent, and 279 subjects had at least one episode of fall. In multivariate analyses, cognitive impairment, advanced age (85+ years), length of stay (more than 3 weeks) and severe disability were the main independent predictors of development of the four geriatric syndromes, with cognitive impairment as the most significant risk factor for all the four outcomes (OR 4.9, 95% CI 2.4-9.9 for pressure sores; OR 6.3, 95% CI 3.0-13.0 for fecal incontinence; OR 5.3, 95% CI 2.3-12.0 for urinary incontinence; OR 1.6, 95% CI 1.2-2.3 for falls).

Conclusion: Very old people have a significant increased risk of several geriatric syndromes during the stay in hospital, particularly if it is long and they are cognitively impaired. A standardized comprehensive geriatric evaluation at admission could be helpful in detecting all subjects at risk and preventing the development of hospital-acquired geriatric syndromes. (PsycINFO Database Record (c) 2006 APA, all rights reserved) (journal abstract)

REF ID: 1741

Level VI: Opinion

Topic 2: Prevention

Messecar, D. (2003). Resistance exercises or vitamin D did not improve physical health or reduce falls in frail older people. *Evidence-Based Nursing*, 6(4), 116-117.

Journal Article, Abstract, Commentary, Tables/Charts

QUESTION: In frail older people, does a home based programme of quadriceps resistance exercise or vitamin D supplementation improve physical health and reduce falls? Design Randomised (allocation concealed), blinded (clinicians, patients, and outcome assessors), controlled, factorial design trial with 6 months of follow up. Setting 5 teaching hospitals in Auckland, New Zealand and Sydney, Australia. Patients 243 people admitted to geriatric rehabilitation units (inpatient or day wards) who were ≥ 65 years of age (mean age 79 y, 53% women), considered frail (≥ 1 health problem or functional limitation [eg, dependency in an activity of daily living, prolonged bed rest, impaired mobility, or a recent fall]), and had no indication or contraindication for the study treatments. Exclusion criteria included poor prognosis, severe cognitive impairment, physical limitations restricting adherence to the exercise programme, unstable cardiac status, and large ulcers around the ankles. Follow up was 91%. Intervention Patients were allocated to resistance exercise (n=120) or attention control (n=123) and to vitamin D (six 1.25 mg tablets of calciferol) (n=121) or placebo (n=122). The quadriceps resistance exercise involved warm up stretches and 3 sets of 8 repetitions of knee extensions using ankle cuff weights in a seated position 3 times per week for 10 weeks. Patients were monitored weekly by a physiotherapist, with alternating telephone calls and home visits. The attention control group received frequency matched telephone calls and home visits from the physiotherapist. Main outcome measures Self rated physical health (health related quality of life [HRQoL]) using the physical component score of the Medical Outcomes Study 36 item short form questionnaire at 3 months, and falls over 6 months. 25-hydroxyvitamin-D (25-OH-D) concentrations were measured by radioimmunoassay. Adverse events were assessed. Main results Analysis was by intention to treat. Resistance exercises did not improve HRQoL or reduce the incidence of falls more than attention control (table). In only 1 measurement (timed up and go) did the groups differ, and the difference favoured attention control (p=0.045). Musculoskeletal injuries were more frequent in the resistance exercise group (18 v 5 people, relative risk 3.6, 95% CI 1.5 to 8.0). Vitamin D supplementation had no effect on HRQoL or incidence of falls (table), although 25-OH-D concentrations were higher in the vitamin D group than the placebo group (change from baseline to 3 mo 9 v 0 ng/ml). Conclusions In frail older people, neither a home based

quadriceps resistance exercise programme nor vitamin D supplementation improved physical health or reduced the risk of falls. Resistance exercise led to a higher incidence of musculoskeletal injuries.

REF ID: 2018

Level V: Case report

Topic 6: Comprehensive

Michel, J. P., Zekry, D., Mulligan, R., Giacobini, E., & Gold, G. (2001 Jun). Economic considerations of alzheimer's disease and related disorders. *Aging-Clinical & Experimental Research*, 13(3), 255-260.

Journal Article. Review

Economic analyses of geriatric syndromes are seldom performed. However, demographic and epidemiological imperatives have led to significant interest in the evaluation of AD-related costs. Over 300 papers devoted to economic considerations of Alzheimer's disease have been published in peer-reviewed journals, within the last five years. In these papers, the chosen perspective (costs to society or to specific payers) is important. Analytical methods are still evolving and remain complex. Unresolved methodological issues will need to be addressed to further our understanding of long-term economic consequences. At present, it is clear that diagnostic and drug costs are low compared to the major cost of institutionalization. Thus, directing efforts at early diagnosis and delaying nursing home placement are two key cost-containment interventions. In this respect, the need to support informal care should not be underestimated. [References: 49]

REF ID: 1919

QM: Quality Measures

Topic 5: Evaluation/Follow-up

Mitty, E. L. (2004). Assisted living: Aging in place and palliative care. *Geriatric Nursing*, 25(3), 149-56, 163.

Journal Article, Pictorial, Tables/Charts

Principles of upstream palliative care can guide the planning, programs, and services associated with aging in place in assisted living residences (ALRs). Frail older adults who do not need a nursing home level of care are choosing to live-and die-in ALRs. This article describes the context of assisted living, resident characteristics, key indicators of palliative care, barriers to end-of-life care, and the role, responsibilities, and potential for professional nursing in assisted living. Stakeholder concerns about staff knowledge and skills in care of the elderly, medication management, the risks associated with residential care, and nursing delegation are discussed.

REF ID: 2017

Level V: Case report

Topic 3: Assessment

Naeim, A., & Reuben, D. (2001 Dec). Geriatric syndromes and assessment in older cancer patients. *Oncology (Huntington)*, 15(12), 1567-1577.

Journal Article. Review

Older individuals are at risk for adverse events in all settings where cancer is treated. Common geriatric syndromes can complicate cancer therapy, and thus, increase patient morbidity and the costs of care. Furthermore, cancer treatment can worsen geriatric syndromes. It is often difficult to determine whether declining health is a result of cancer treatment or the patient's underlying disease. Baseline assessment of multiple factors may facilitate detection of a decline in the patient's health status, which may be remediable. Geriatric syndromes may substantially affect quality of life and are also important in the prognosis and outcome of cancer therapy. This article reviews the assessment of cognitive syndromes (dementia and delirium), vision and hearing impairment, gait and balance difficulties, malnutrition, incontinence, depression, osteoporosis, sleep disorders, environmental and social issues, and functional decline. Although there are many geriatric domains and many focused assessment tools, assessment does not need to be time-consuming. Streamlined assessment tools have been developed; they are brief, inexpensive, and easily administered, and they may be valuable to the oncologist. Staff such as nurses,

social workers, or office personnel could perform these assessments and minimize the impact on the physician's time. [References: 73]

REF ID: 1958

Level V: Case report

Topic 3: Assessment

Nemmers, T. M. (2004; 2004). The influence of ageism and ageist stereotypes on the elderly. *Physical & Occupational Therapy in Geriatrics*, 22(4), 11-20.

Journal; Peer Reviewed Journal

Health care providers focused on the care of the geriatric population encounter the elderly on many aspects of the health continuum, often treating the well-elderly looking for health promotions programs, as well as the severely frail-elderly who are dependent in all aspects of their daily life. In order to develop successful and comprehensive wellness and rehabilitative programs, the health care provider must understand the various facets of ageism and ageist stereotyping, and become aware of the physical, mental, and emotional consequences that may result from this form of age discrimination. Health care providers must also understand their role in combating ageism and ageist stereotyping while promoting healthy aging within their aging clientele. The purpose of this review is to provide an overview of the concept of ageism, and to review the impact of negative ageist stereotypes on the elderly. (PsycINFO Database Record (c) 2006 APA, all rights reserved) (journal abstract)

REF ID: 1990

Level V: Case report

Topic 3: Assessment

Olde Rikkert, M. G., Rigaud, A. S., van Hoeyweghen, R. J., & de Graaf, J. (2003 Mar). Geriatric syndromes: Medical misnomer or progress in geriatrics? *Netherlands Journal of Medicine*, 61(3), 83-87.

Journal Article. Review

Both in geriatric and internal medicine journals, and in medical textbooks certain (aggregates of) symptoms are labelled as 'geriatric syndromes'. In frail elderly patients a large number of diseases present with well-known and highly prevalent atypical symptoms (e.g. immobility, instability, impaired cognition and incontinence), which are referred to as geriatric syndromes. While classically the term syndrome is used for grouping together multiple symptoms with a single pathogenetic pathway, geriatric syndrome primarily refers to one symptom or a complex of symptoms with high prevalence in geriatrics, resulting from multiple diseases and multiple risk factors. The geriatric workup should therefore consist of both a search for and treatment of the aetiologically related diseases and a risk factor assessment and reduction. Effectiveness and efficiency of this specific geriatric syndrome workup has been demonstrated predominantly for combinations of geriatric syndromes that often serve as targeting criteria for geriatric interventions, and for some specific geriatric syndromes. Therefore, we argue that the concept of geriatric syndromes is valuable as a theoretical frame, a directive for diagnostic analysis and as an educational tool in teaching geriatrics to medical students and trainees. Added to this, explaining the heterogeneous way 'syndrome' is used in current clinical practice, as opposed to 'disease', will also substantially improve clinical reasoning both in geriatrics and general internal medicine.

[References: 24]

REF ID: 1918

QM: Quality Measures

Topic 5: Evaluation/Follow-up

Ouslander, J. G., & Johnson TM, I. I. (2004). Continence care for frail older adults: It is time to go beyond assessing quality. *Journal of the American Medical Directors Association*, 5(3), 213-216.

Journal Article, Commentary, Editorial, Review

REF ID: 1997

Level V: Case report

Topic 3: Assessment; Topic 1: Risks

Pavlou, M. P., & Lachs, M. S. (2006 May). Could self-neglect in older adults be a geriatric

syndrome? *Journal of the American Geriatrics Society*, 54(5), 831-842.

Journal Article. Review

Self-neglect in older adults is a complex phenomenon characterized by inattention to health and hygiene, typically stemming from an inability or unwillingness to access potentially remediating services. Some aspects of self-neglect clinically resemble geriatric syndromes (e.g., falling, incontinence). The literature on self-neglect was comprehensively reviewed and its quality evaluated in the context of considering its candidacy for a geriatric syndrome. MEDLINE (1966-2004) was searched using self-neglect as a keyword. Using a "snowball" sampling strategy, associated terms (e.g., Diogenes' syndrome) were combined, selecting relevant papers and frequently cited references, assessing each one using specific criteria. Its candidacy for consideration for a geriatric syndrome was assessed based on the quality of data in four domains: multifactorial etiology, shared risk factors with other geriatric syndromes, association with functional decline, and association with increased mortality. The 54 articles reviewed included 24 case series, 13 theoretical articles, 11 observational studies, and six reviews; these were of highly variable methodological quality. The strongest evidence that self-neglect may be a geriatric syndrome includes its often multifactorial etiology, its clear independent association with increased mortality, and the fact that two other geriatric syndromes (cognitive impairment and depression) are risk factors for self-neglect. Self-neglect in older adults is a prevalent problem that appears to have at least some features of a geriatric syndrome. Insofar as the concept of geriatric syndrome has been a useful clinical and research paradigm to create interventions for vulnerable older adults, and no such strategies are available for this vexing and understudied clinical problem, future research is warranted in this area. [References: 57]

REF ID: 1925

Level II: Individual experimental study

Topic 2: Prevention

Payette, H., Boutier, V., Coulombe, C., & Gray-Donald, K. (2002 Aug). Benefits of nutritional supplementation in free-living, frail, undernourished elderly people: A prospective randomized community trial. *Journal of the American Dietetic Association*, 102(8), 1088-1095.

Clinical Trial. Journal Article. Randomized Controlled Trial

OBJECTIVE: To evaluate the impact of nutritional supplementation on nutritional status, muscle strength, perceived health, and functional status in a population of community-living, frail, undernourished elderly people. **DESIGN:** A 16-week intervention study in which subjects were randomized to an experimental or a control group and visited in their home on a monthly basis. Outcome variables were measured at the start and end of the study at subjects' homes by a dietitian blinded to treatment assignment. **SUBJECTS/SETTING:** 83 elderly people (experimental group: n=42; control group: n=41; mean age=80+/-7 years) receiving community home-care services and at high risk for undernutrition. **INTERVENTION:** Provision of a nutrient-dense protein-energy liquid supplement and encouragement to improve intake from other foods. **OUTCOME MEASURES:** Anthropometric indexes, handgrip strength, isometric elbow flexion and leg extension strength, lower extremity function, perceived health, and functional status. **STATISTICAL ANALYSES:** Study groups were compared on an "intention to treat" basis using analysis of variance for repeated measures and unpaired and paired t tests and their nonparametric equivalents where appropriate. **RESULTS:** Total energy intake (1,772 vs 1,440 kcal; P<.001) and weight gain (1.62 vs 0.04 kg; P<.001) were higher in the supplemented group. No significant changes were observed with respect to other anthropometric indexes, muscle strength, or functional variables; however, beneficial effects were observed in emotional role functioning (P<0.01) and number of days spent in bed (P=.04).

APPLICATIONS/CONCLUSIONS: Nutrition intervention is feasible in free-living, frail, undernourished elderly people and results in significant improvement of nutritional status with respect to energy and nutrient intake and weight gain. Weight loss can be stopped and in some cases reversed; however, increased physical activity may also be required to improve health and functional status.

REF ID: 1938

QM: Quality Measures

Topic 5: Evaluation/Follow-up

Peiro, R., Alvarez-Dardet, C., Plasencia, A., Borrell, C., Colomer, C., & Moya, C. et al. (2002 Dec). Rapid appraisal methodology for 'health for all' policy formulation analysis. *Health Policy*, 62(3), 309-328.

Journal Article

BACKGROUND: Although in the last 20 years, the WHO 'Health for All' principles have been widely used in national, regional and local health policy documents, there is still a gap in the literature regarding how to appraise or compare them, which weakens the social accountability process.

METHODOLOGY: A new, rapid approach to analyse the formulation of health policies is proposed. It is based on the selection of a small number of tracers and the development of a gold standard to be completed with input from a review of the literature, and opinions of expert panel members. This methodology has been empirically applied to the health strategies of two Spanish regions (Catalonia and Valencia). **RESULTS:** A framework for analysis was produced containing three dimensions: timing (early or late policy options), action level (individuals or social focus) and equity (social class, gender and ethnic groups). The health problems selected as tracers were HIV/AIDS, traffic injuries and ageing-related disabilities. In the two regions studied, the policies formulated for HIV/AIDS and age-related disabilities provide interventions late in the evolution of the health problem. The strategy established in the region of Valencia is more community-oriented than in Catalonia. Neither region had implemented specific policies regarding social class, gender or ethnic groups. **INTERPRETATION:** The methodology proposed here makes it possible to map the formulation of Health Strategies, compare different geographical areas and even forecast the policies' usefulness. The simplicity of the method, together with the fact that citizens and politicians alike can easily understand its results are major advantages. For the framework to be fully useful, it will be necessary to build evidence-based policy databases.

REF ID: 2007

Level V: Case report

Topic 3: Assessment ;Topic 4.1: Management-General

Phillips, E. M., Bodenheimer, C. F., Roig, R. L., & Cifu, D. X. (2004 Jul). Geriatric rehabilitation. 4. physical medicine and rehabilitation interventions for common age-related disorders and geriatric syndromes. *Archives of Physical Medicine & Rehabilitation*, 85(7 Suppl 3), S18-22.

Journal Article. Review

This self-directed learning module highlights physical medicine and rehabilitation (PM and R) interventions for age-related physiologic changes. It is part of the study guide on geriatric rehabilitation in the Self-Directed Physiatric Education Program for practitioners and trainees in PM and R and geriatric medicine. This article specifically focuses on PM and R interventions (including exercise) for mobility alterations, activities of daily living alterations, osteoporosis, cognitive and behavioral changes, bladder changes, and bowel changes. **OVERALL ARTICLE OBJECTIVE:** To summarize the physical medicine and rehabilitation interventions for age-related physiologic changes. [References: 33]

REF ID: 1976

Level VI: Opinion

Topic 3: Assessment

Rao, A. V., Seo, P. H., & Cohen, H. J. (2004 Apr). Geriatric assessment and comorbidity. *Seminars in Oncology*, 31(2), 149-159.

Journal Article

Elderly persons, a rapidly growing population segment, have an increased incidence of cancer. The older cancer patient's clinical evaluation and treatment is influenced by conditions such as disabilities, comorbidity, and functional status, along with tumor type and stage. These conditions and other geriatric syndromes can be identified by comprehensive geriatric assessment to guide therapy and affect prognosis and quality of life. Comprehensive geriatric assessment involves the medical, functional, affective, social, spiritual, and environmental assessments. The medical assessment, which includes a nutrition, vision, hearing, continence, gait and balance, and cognition evaluation, can provide additional information to performance status and comorbidity. Although there are many assessment domains using

several instruments, comprehensive geriatric assessment can be focused and efficient, especially with a multidisciplinary team of nurses, social workers, pharmacists, and other personnel. Comorbid illnesses may have complex interactions, with the underlying cancer influencing cancer diagnosis, disease course, treatment-related side effects, and mortality. Many instruments are available for comorbidity measurement, and retrospective studies in elderly cancer cohorts have shown comorbidity to influence survival. However, the ultimate aim would be to use comorbidity and comprehensive geriatric assessments prospectively in the older cancer patient to help predict the suitability and success of treatment with various antineoplastic modalities.

REF ID: 2001

Level V: Case report

Topic 2: Prevention

Rao, S. S. (2005 Jul 1). Prevention of falls in older patients. *American Family Physician*, 72(1), 81-88.

Journal Article. Review

Falls are one of the most common geriatric syndromes threatening the independence of older persons. Between 30 and 40 percent of community-dwelling adults older than 65 years fall each year, and the rates are higher for nursing home residents. Falls are associated with increased morbidity, mortality, and nursing home placement. Most falls have multiple causes. Risk factors for falls include muscle weakness, a history of falls, use of four or more prescription medications, use of an assistive device, arthritis, depression, age older than 80 years, and impairments in gait, balance, cognition, vision, and activities of daily living. Physicians caring for older patients should ask about any falls that have occurred in the past year. Assessment should include evaluating the circumstances of the fall and a complete history and physical examination, looking for potential risk factors. The most effective fall prevention strategies are multifactorial interventions targeting identified risk factors, exercises for muscle strengthening combined with balance training, and withdrawal of psychotropic medication. Home hazard assessment and modification by a health professional also is helpful. [References: 24]

REF ID: 238

Level I: Systematic Reviews

Topic 3: Assessment

Topic 4.1: Management-General

Reiner, A., & Lacasse, C. (2006). Symptom correlates in the gero-oncology population. *Seminars in Oncology Nursing*, 22(1), 20-30.

Journal Article, Research, Systematic Review, Tables/Charts

OBJECTIVES: To review recently published studies that describe the presence of selected cancer-related symptoms and relationships between them in the gero-oncology population. **DATA SOURCES:** Research studies, review articles, and government documents. **CONCLUSION:** Cancer-related symptoms have been studied for over two decades, yet little is known about the functional effects of age on the disease experience. **IMPLICATIONS FOR NURSING PRACTICE:** Nurses are encouraged to consider symptoms related to other chronic illnesses that contribute to an older person's daily living when planning oncology nursing care.

REF ID: 1945

QM: Quality Measures

Topic 5: Evaluation/Follow-up

Rhew, D. C. (2001 Oct 16). Quality indicators for the management of pneumonia in vulnerable elders. *Annals of Internal Medicine*, 135(8 Pt 2), 736-743.

Journal Article

REF ID: 1915

QM: Quality Measures

Topic 5: Evaluation/Follow-up

Rockwood, K. (2005). Frailty and its definition: A worthy challenge. *Journal of the American*

Geriatrics Society, 53(6), 1069-1070.

Journal Article, Editorial

REF ID: 1950

QM: Quality Measures

Topic 5: Evaluation/Follow-up

Rubenstein, L. Z., Powers, C. M., & MacLean, C. H. (2001 Oct 16). Quality indicators for the management and prevention of falls and mobility problems in vulnerable elders.[see comment]. *Annals of Internal Medicine*, 135(8 Pt 2), 686-693.

Journal Article

REF ID: 1823

QM: Quality Measures

Topic 5: Evaluation/Follow-up

Rubenstein, L. Z., Solomon, D. H., Roth, C. P., Young, R. T., Shekelle, P. G., & Chang, J. T. et al. (2004 Sep). Detection and management of falls and instability in vulnerable elders by community physicians. *Journal of the American Geriatrics Society*, 52(9), 1527-1531.

Journal Article

OBJECTIVES: To investigate quality of care for falls and instability provided to vulnerable elders. **DESIGN:** Six process of care quality indicators (QIs) for falls and instability were developed and applied to community-living persons aged 65 and older who were at increased risk of death or decline. QIs were implemented using medical records and patient interviews. **SETTING:** Northeastern and southwestern United States. **PARTICIPANTS:** Three hundred seventy-two vulnerable elders enrolled in two senior managed care plans. **MEASUREMENTS:** Percentage of QIs satisfied concerning falls or mobility disorders. **RESULTS:** Of the 372 consenting vulnerable elders with complete medical records, 57 had documentation of 69 episodes of two or more falls or fall with injury during the 13-month study period (14% of patients fell per year, 18% incidence). Double this frequency was reported at interview. An additional 22 patients had documented mobility problems. Clinical history of fall circumstances, comorbidity, medications, and mobility was documented from 47% of fallers and two or more of these four elements from 85%. Documented physical examination was less complete, with only 6% of fallers examined for orthostatic blood pressure, 7% for gait or balance, 25% for vision, and 28% for neurological findings. The evaluation led to specific recommendations in only 26% of cases, but when present they usually led to appropriate treatment modalities. Mobility problems without falls were evaluated with gait or balance examination in 23% of cases and neurological examination in 55%. **CONCLUSION:** Community physicians appear to underdetect falls and gait disorders. Detected falls often receive inadequate evaluation, leading to a paucity of recommendations and treatments. Adhering to guidelines may improve outcomes in community-dwelling older adults. Copyright 2004 American Geriatrics Society

REF ID: 1988

Level V: Case report

Topic 3: Assessment

Rutschmann, O. T., Chevalley, T., Zumwald, C., Luthy, C., Vermeulen, B., & Sarasin, F. P. (2005 Mar 5). Pitfalls in the emergency department triage of frail elderly patients without specific complaints. *Swiss Medical Weekly*, 135(9-10), 145-150.

Journal Article

QUESTION UNDER STUDY: Elderly patients represent an increasing proportion of emergency department (ED) admissions. When no specific complaint is identified, the reason for referral is commonly called "home care impossible". The aim of this study was to describe a population of elderly patients who present to the ED of a 1200-bed university hospital without specific complaint, and to assess how they were evaluated in the ED. **METHODS:** Data on triage, mode of admission and discharge were collected. After the initial evaluation in the ED, patients were classified in two categories: (1) patients identified with a medical problem requiring rapid care or investigation, (2) patients without a medical problem considered as true "home care impossible". These latter patients

underwent a complete assessment using the Minimal Data Set-Home Care (MDS-HC). RESULTS: During the 10-week study period 253 patients (mean age 81 years) were referred because of "home care impossible". An acute medical problem was identified in 129 of those patients (51%). All these patients were triaged in lower acuity categories. 33 (26%) were undertriaged due to (1) absence of vital signs measurement, (2) poor recognition of neurological symptoms, (3) atypical clinical presentation. The remaining patients were considered as true "home care impossible". The MDS-HC evaluation revealed a high level of biopsychosocial comorbidities. CONCLUSIONS: Frail elderly patients admitted without specific complaints are at risk of inappropriate or delayed evaluation due to undertriage at the door of the ED. A more specific geriatric assessment should be integrated early in the triage process of these patients.

REF ID: 1898

Level I: Systematic Reviews

Topic 2: Prevention

Rydwik, E., Frandin, K., & Akner, G. (2004). Effects of physical training on physical performance in institutionalised elderly patients (70+) with multiple diagnoses. *Age and Ageing*, 33(1), 13-23.

Journal Article, Research, Systematic Review, Tables/Charts

OBJECTIVE: the positive effect of physical training in healthy elderly people is well documented. The aim of this systematic review was to describe the effect of physical training on physical performance in institutionalised elderly patients with multiple diagnoses. DESIGN: systematic literature review of randomised controlled trials regarding effects of physical training of elderly (70+) subjects. METHODS: the randomised controlled trials were evaluated using a modified version of an evaluation form originally developed by the Cochrane Collaboration. It is based on a weighted scale of 0-100 points, and ranks the studies as high, moderate or low methodological quality. A total of 16 randomised controlled trials were included in the review. RESULTS: six studies scored as high quality, eight as moderate and two as low. There was a large heterogeneity in the studies concerning sample size, types of interventions and types of assessments. There is strong evidence for a positive effect of physical training on muscle strength and mobility; moderate evidence for an effect on range of motion; and contradictory evidence regarding gait, activities of daily living, balance and endurance. CONCLUSION: more studies are required, with larger sample sizes, higher specificity as to the types of interventions and assessments, greater focus on clinically relevant outcomes such as endurance and activities of daily living, and also, for example, quality of life and mortality.

REF ID: 1961

Level VI: Opinion

Topic 2: Prevention; Topic 4.1: Management-General

Sachs, G. A. (2003; 2003). Research at the interface of palliative care and geriatrics. *Journal of Palliative Care*, 19(1), 5-6.

Journal; Peer Reviewed Journal

Comments on the article "Pressure ulcer prevention and treatment in hospices: a qualitative analysis" by Eisenberger and Zelezni (see record 2003-03556-003). Important issues raised by this article are the need for more research and dialogue at the interface of palliative care and geriatrics and the unintended and potentially negative consequences of efforts to improve care for pressure sores and other geriatric syndromes. It also discusses another issue raised by the authors that is the need for more hospices to become partners in the research enterprise. It also discusses the interviewees of Eisenberger and Zelezni, where their quotes about pressure sore management did not comport with either what is taught in geriatrics (e.g., sharp debridement of some pressure sores is quite painless, as the tissue being removed is necrotic and devitalized, and most eschars are not painful either). The Eisenberger and Zelezni study is exactly the kind of research that is needed to look at this interface of geriatrics and palliative care, and to begin to sort out how best to care for a population that will increasingly be older, and will increasingly be coming to palliative care programs and hospices with pressure sores and other geriatric syndromes. (PsycINFO Database Record (c) 2006 APA, all rights reserved)

REF ID: 66

OM: Quality Measures [Quality indicators (Medline)/Clinical indicators (CINAHL)]

Topic 5: Evaluation/Follow-up

Saliba, D., Solomon, D., Rubenstein, L., Young, R., Schnelle, J., & Roth, C. et al. (2005 May-Jun). Feasibility of quality indicators for the management of geriatric syndromes in nursing home residents. *Journal of the American Medical Directors Association*, 6(3 Suppl), S50-9.

Journal Article

PURPOSE: The assessment and management of dementia, falls and mobility disorders, malnutrition, end-of-life issues, pressure ulcers, and urinary incontinence have been identified as important quality improvement targets for vulnerable elders residing in nursing homes. This study aimed to identify valid and feasible measures of specific care processes associated with improved outcomes for these conditions. **METHODS:** Nine experts in nursing home (NH) care participated in a modified Delphi process to evaluate potential quality indicators (QIs) for care in NHs. Panelists met and discussed potential indicators before completing confidential ballots rating validity (process associated with improved outcomes), feasibility of measurement (with charts or interviews), feasibility of implementation (given staffing resources in average community NHs), and importance (expected benefit and prevalence in NHs). The NH panel's median votes were used to identify a final set of QIs that were subsequently reviewed by a clinical oversight committee. **RESULTS:** Sixty-eight geriatric syndrome QIs were identified as valid and important in NH populations. Panelists assessed 12 (18%) of these QIs as having questionable feasibility to implement in average community nursing homes trying to provide quality care. Nine (13%) would not be included in systems assessing quality of care for persons with advanced dementia or poor prognosis. **CONCLUSIONS:** Steps of care critical to the assessment and management of geriatric syndromes in NHs were identified. Feasibility is an important issue for a significant number of these, indicating that much remains to be done to design systems that efficiently and reliably implement these care processes.

REF ID: 1963

Level V: Case report

Topic 3: Assessment

Salles, N., Kressig, R. W., & Michel, J. P. (2003; 2003). Management of chronic dizziness in elderly people. *Zeitschrift Fur Gerontologie Und Geriatrie*, 36(1), 10-15.

Journal; Peer Reviewed Journal

Dizziness is a frequent complaint in elderly people, and is a broad term used to explain various abnormal sensations related to the perception of the body's relationship to space. Classically, four subtypes are described: vertigo, pre-syncopal lightheadedness, disequilibrium, and other dizziness. Dizziness is often a chronic complaint in elderly people and may lead to dramatic worsened functional and psychosocial outcomes. Dizziness should be approached as a symptom and as a syndrome. In fact, physicians should exclude potential curable causes of dizziness, considering dizziness as a symptom of specific diseases. As dizziness is often multifactorial, it should also be treated as a geriatric syndrome. Physicians should, thus, identify risk factors of recurrent dizziness. The "Dizziness Handicap Inventory Scale" may assist the clinician to establish the extent of the "dizziness" problem. Specific causes of dizziness should be addressed as well as contributive factors (i.e., medications). Vestibular and balance rehabilitation with an interdisciplinary collaboration should start rapidly to avoid psycho-social complications, such as fear of falling. (PsycINFO Database Record (c) 2006 APA, all rights reserved) (journal abstract)

REF ID: 2003

Level V: Case report

Topic 2: Prevention

Scanland, S., & Stucke, S. (2005 Jan). Common geriatric syndromes. act promptly for effective management. *Advance for Nurse Practitioners*, 13(1), 47-50.

Journal Article. Review

REF ID: 1909

Level VI: Opinion

Topic 1: Risks

Schaefer, K. M. (2006). An operational definition of frailty predicted death and other adverse outcomes in older women. *Evidence-Based Nursing, 9(2), 57.*

Journal Article, Abstract, Commentary, Tables/Charts

critique of Woods NF, LaCroix AZ, Gray SL, Aragaki A, Cochrane BB, Brunner RL, et al. Frailty: emergence and consequences in women aged 65 and older in the women's health initiative observational study. *J AM GERIATR SOC* 2005 Aug; 53(8): 1321-30 (research

Does frailty, defined as a combination of 5 simple measures, predict death, hip fracture, activity of daily living (ADL) disability, and hospital admission in older women? **METHODS** Design: cohort study (Women's Health Initiative Observational Study). Setting: 40 clinical centres in the US. Participants: 40657 postmenopausal women who were 65-79 years of age, did not have Parkinson's disease, did not take medication for Parkinson's disease or depression, and were expected to survive and live in the same area for ≥ 3 years. Risk factors: frailty, defined as ≥ 3 of 5 components: muscle weakness and slow walking speed (5% of body weight in the previous 2 Y). Outcomes: death, hip fracture, ADL disability, and overnight hospital admission. **MAIN RESULTS** At baseline, 16% of women were considered to be frail and 28% to have intermediate frailty (1 or 2 frailty components). At 3 years, frailty had developed in 15% of women with < 3 frailty components at baseline. Frailty at baseline increased risks of ADL disability at 3 years and death, hip fracture, and hospital admission during a mean 5.9 years of follow up (table). Intermediate frailty also predicted these outcomes but to a lesser extent (table). **CONCLUSION** An operational definition of frailty was associated with increased risk of death, hip fracture, activity of daily living disability, and hospital admission in older women.

REF ID: 1934

Level I: Systematic Reviews

Topic 2: Prevention

Schechtman KB. Ory MG. Frailty and Injuries: Cooperative Studies of Intervention Techniques. (2001). The effects of exercise on the quality of life of frail older adults: A preplanned meta-analysis of the FICSIT trials. *Annals of Behavioral Medicine, 23(3), 186-197.*

Journal Article. Meta-Analysis

The Frailty and Injuries: Cooperative Studies of Intervention Techniques (FICSIT) was a linked series of randomized clinical trials focused on the benefits of exercise in the frail elderly. This article uses covariate-adjusted preplanned meta-analyses of FICSIT data to evaluate the effect of exercise on quality of life (QOL) outcomes (N = 1,733; age = 73.4 +/- 6.1 years). Results indicate that (a) exercise produced a small but significant improvement in the emotional health component of QOL, trended toward an improved social component, and did not effect perceptions of general health; (b) exercise-related joint and muscle stresses did not increase bodily pain; and (c) QOL improvements were independent of changes in physical functioning. We conclude that exercise can improve QOL in the frail elderly but that the magnitude of the improvement is modest in size. The benefits of a meta-analytical approach for documenting efficacy outcomes across different types of interventions are discussed.

REF ID: 1908

Level III: Quasi-experimental study

Topic 1: Risks

Schmaltz, H. N., Fried, L. P., Xue, Q., Walston, J., Leng, S. X., & Semba, R. D. (2005). Chronic cytomegalovirus infection and inflammation are associated with prevalent frailty in community-dwelling older women. *Journal of the American Geriatrics Society, 53(5), 747-754.*

Journal Article, Research, Tables/Charts

OBJECTIVES: To evaluate the association between asymptomatic chronic cytomegalovirus (CMV) infection and the frailty syndrome and to assess whether inflammation modifies this association. **DESIGN:** Cross-sectional analysis. **SETTING:** Women's Health and Aging Study I & II, Baltimore,

Maryland. PARTICIPANTS: Seven hundred twenty-four community-dwelling women aged 70 to 79 with baseline measures of CMV, interleukin-6 (IL-6), and frailty status. MEASUREMENTS: CMV serology and IL-6 concentrations were measured using enzyme-linked immunosorbent assay. Frailty status was based on previously validated criteria: unintentional weight loss, weak grip strength, exhaustion, slow walking speed, and low level of activity. Frail women had three or more of the five components, prefrail women had one or two components, and women who were not frail had none of the components. Multinomial logistic regression adjusted for potential confounders. RESULTS: Eighty-seven percent of women were CMV seropositive, an indication of chronic infection. CMV was associated with prevalent frailty, adjusting for age, smoking history, elevated body mass index, diabetes mellitus, and congestive heart failure (CMV frail adjusted odds ratio (AOR)=3.2, P=.03; CMV prefrail AOR=1.5, P=.18). IL-6 interacted with CMV, significantly increasing the magnitude of this association (CMV positive and low IL-6 frail AOR=1.5, P=.53; CMV positive and high IL-6 frail AOR=20.3, P=.007; CMV positive and low IL-6 prefrail AOR=0.9, P=.73; CMV positive and high IL-6 prefrail AOR=5.5, P=.001). CONCLUSION: Chronic CMV infection is associated with prevalent frailty, a state with increased morbidity and mortality in older adults; inflammation enhances this effect. Further prospective studies are needed to establish a causal relationship between CMV, inflammation, and frailty.

REF ID: 71

QM: Quality Measures [Quality indicators (Medline)/Clinical indicators (CINAHL)]

Topic 5: Evaluation/Follow-up

Schnelle, J. F., & Smith, R. L. (2001 Oct 16). Quality indicators for the management of urinary incontinence in vulnerable community-dwelling elders. *Annals of Internal Medicine*, 135(8 Pt 2), 752-758.

Journal Article

REF ID: 1953

QM: Quality Measures

Topic 5: Evaluation/Follow-up

Shekelle, P. G., MacLean, C. H., Morton, S. C., & Wenger, N. S. (2001 Oct 16). Acove quality indicators. *Annals of Internal Medicine*, 135(8 Pt 2), 653-667.

Journal Article

REF ID: 1954

QM: Quality Measures

Topic 5: Evaluation/Follow-up

Shekelle, P. G., MacLean, C. H., Morton, S. C., & Wenger, N. S. (2001 Oct 16). Assessing care of vulnerable elders: Methods for developing quality indicators. *Annals of Internal Medicine*, 135(8 Pt 2), 647-652.

Journal Article

REF ID: 1921

QM: Quality Measures

Topic 5: Evaluation/Follow-up

Solomon, D. H., Wenger, N. S., Saliba, D., Young, R. T., Adelman, A. M., & Besdine, R. K. et al. (2003). Appropriateness of quality indicators for older patients with advanced dementia and poor prognosis. *Journal of the American Geriatrics Society*, 51(7), 902-907.

Journal Article, Research, Tables/Charts

OBJECTIVES: To evaluate the applicability of process-of-care quality indicators (QIs) to vulnerable elders and to measure the effect of excluding indicators based on patients' preferences and for advanced dementia and poor prognosis. **DESIGN:** The Assessing Care of Vulnerable Elders (ACOVE) project employed 203 QIs for care of 22 conditions (including six geriatric syndromes and 11 age-associated diseases) for community-based persons aged 65 and older at increased risk of functional decline or death. Relevant QIs were excluded for persons deciding against hospitalization or surgery. A 12-member clinical committee (CC) of geriatric experts rated whether each QI should be applied in scoring

quality of care for persons with advanced dementia (AdvDem) or poor prognosis (PoorProg). Using content analysis, CC ratings were formulated into a model of QI exclusion. Quality scores with and without excluded QIs were compared. SETTING: Enrollees in two senior managed care plans, one in the northeast United States and the other in the southwest. PARTICIPANTS: CC members evaluated applicability of QIs. QIs were applied to 372 vulnerable elders in two senior managed care plans. MEASUREMENTS: Frequency and type of QIs excluded and the effect of excluding QIs on quality of care scores. RESULTS: Of the 203 QIs, a patient's preference against hospitalization or surgery excluded 10 and eight QIs, respectively. The CC voted to exclude 81.5 QIs (40%) for patients with AdvDem and 70 QIs (34%) for patients with PoorProg. Content analysis of the CC votes revealed that QIs aimed at care coordination, safety or prevention of decline, or short-term clinical improvement or prevention with nonburdensome interventions were usually voted for inclusion (90% and 98% included for AdvDem and PoorProg, respectively), but QIs directed at long-term benefit or requiring interventions of moderate to heavy burden were usually excluded (16% and 19% included, respectively). About half of QIs aimed at age-associated diseases were voted for exclusion, whereas fewer than one-quarter of QIs for geriatric syndromes were excluded. Thirty-nine patients (10%) in our field trial held preferences or had clinical conditions that would have excluded 68 QIs. This accounted for 5% of all QIs triggered by these 39 patients and 0.6% of QIs overall. The quality score without exclusion was 0.57 and with exclusion was 0.58 ($P = .89$). CONCLUSION: Caution is required in applying QIs to vulnerable elders. QIs for geriatric syndromes are more likely to be applicable to these individuals than are QIs for age-associated diseases. The objectives of care, intervention burdens, and interval before anticipated benefit affect QI applicability. At least for patients with AdvDem and PoorProg, identification of applicable or inapplicable QIs is feasible. In a community-based sample of vulnerable elders, few QIs are excluded.

REF ID: 1968

Level V: Case report

Topic 6: Comprehensive

Straus, S. E. (2001; 2001). Recent advances: Geriatric medicine. *BMJ: British Medical Journal*, 322(7278), 86-89.

Journal; Peer Reviewed Journal

Reviewed the contents of ACP Journal Club and Evidence Based Medicine from 1998 to 2000 and, after discussion with colleagues, selected articles believed to be relevant to the care of geriatric patients. Topics addressed include: cardiovascular risk, heart failure, stroke, dementia, osteoporosis, and falls. The author concludes that although we have evidence about the effectiveness of some interventions in elderly people, and many advances have been made in the care of elderly people, many gaps in our knowledge remain. We need to encourage research in elderly people and encourage our elderly patients to participate in this research. In particular, we need to encourage the inclusion of frail elderly people (those with complex medical and psychosocial problems) in studies assessing interventions, prognosis, and quality of life. (PsycINFO Database Record (c) 2006 APA, all rights reserved)

REF ID: 2011

Level V: Case report

Topic 4.1: Management-General

Tan, T. L. (2003 Nov). Urinary incontinence in older persons: A simple approach to a complex problem. *Annals of the Academy of Medicine, Singapore*, 32(6), 731-739.

Journal Article. Review

Urinary incontinence is a major geriatric syndrome with significant morbidity and even mortality. However, it is under-recognised and inadequately managed despite its impact and cost. Continence in the older person is maintained by the fine balance between the integrity of the lower urinary tract, the cognitive ability and motivation to keep dry, and adequate mobility and dexterity to void; impairment of any of the three can result in incontinence. The management of older persons with urinary incontinence involves, i) identifying and reversing transient incontinence, ii) excluding urinary retention, iii) deciding on the need of special tests (imaging, screening for malignancy, magnetic resonance imaging [MRI] for

spinal cord, urodynamic assessment) to exclude sinister causes, and iv) deciding on the need to refer the specialist. With careful evaluation, continence in the older persons can be restored in most cases.

[References: 89]

REF ID: 2012

Level VI: Opinion

Topic 4.1: Management-General

Tsilimingras, D., Rosen, A. K., & Berlowitz, D. R. (2003 Sep). Patient safety in geriatrics: A call for action.[see comment]. *Journals of Gerontology Series A-Biological Sciences & Medical Sciences*, 58(9), M813-9.

Journal Article. Review

Patient safety has become a major public health concern following the publication of the landmark report, *To Err Is Human*, by the Institute of Medicine in 1999. This report, along with a subsequent report, *Crossing the Quality Chasm*, recommended the design of a safer health care system by integrating well-established safety methods to avert medical errors. However, neither patient safety report specifically addressed the implications of safety for elderly patients. This article examines those implications by describing the association between aging and medical errors, identifying geriatric syndromes as medical errors, and focusing on six recommendations that will improve the safety of geriatric care. These six recommendations include the detection and reporting of geriatric syndromes, identifying system failures when geriatric syndromes occur, establishing dedicated geriatric units, improving the continuity of care, reducing adverse drug events, and improving geriatric training programs. [References: 78]

REF ID: 1966

Level V: Case report

Topic 1: Risks

Vig, E. K., Brodtkin, K. I., Raugi, G. J., & Gladstone, H. (2002; 2002). Blue rubber bleb nevus syndrome in a patient with ataxia and dementia. *Journal of Geriatric Psychiatry and Neurology*, 15(1), 7-11.

Journal; Peer Reviewed Journal

Notes that blue rubber bleb nevus syndrome (BRBNS), an uncommon disorder characterized by cavernous hemangiomas, most often of the skin and gastrointestinal tract, is usually diagnosed during childhood and young adulthood. The authors made this diagnosis in an octogenarian (aged 82 yrs) referred to a geriatric medicine clinic because of concerns about his ability to live independently. Ataxia, dementia, focal neurologic signs, and bluish/purplish vascular nodules on his lips, buccal mucosa, tongue, chest, and neck were noted on physical examination. Magnetic resonance imaging (MRI) revealed an old left parietal infarction, multiple cavernous hemangiomas most densely concentrated in the subcortical structures and cerebellum, and areas of hemosiderin deposition. Skin biopsy findings were consistent with hemangioma. The physical examination, MRI, and skin biopsy made a diagnosis of BRBNS likely. The patient's ataxia, dementia, and other neurologic signs can be explained by previous hemorrhage from the vascular malformations in his brain. The authors conclude that blue rubber bleb nevus syndrome is an uncommon cause of a relatively common geriatric syndrome presentation. (PsycINFO Database Record (c) 2006 APA, all rights reserved)

REF ID: 1902

Level I: Systematic Reviews

Topic 6: Comprehensive

Wells, J. L., Seabrook, J. A., Stolee, P., Borrie, M. J., & Knoefel, F. (2003). State of the art in geriatric rehabilitation. part II: Clinical challenges. *Archives of Physical Medicine and Rehabilitation*, 84(6), 898-903.

Journal Article, Research, Systematic Review, Tables/Charts

OBJECTIVES: To examine common clinical problems in geriatric rehabilitation and to make recommendations for current practice based on evidence from the literature. DATA SOURCES: A CINAHL database and 2 MEDLINE searches were conducted for 1980 to 2001. A fourth search was

completed by using the Cochrane database. **STUDY SELECTION:** One author reviewed the references for relevance and another for quality. A total of 336 articles were considered relevant. Excluded articles were unrelated to geriatric rehabilitation or were anecdotal or descriptive reports on a small number of patients. **DATA EXTRACTION:** The following areas were the major geriatric rehabilitation subtopics identified in the search: frailty, comprehensive geriatric assessment, admission screening, assessment tools, interdisciplinary teams, hip fracture, stroke, nutrition, dementia, and depression. This article focuses on the latter 5 subtopics. The literature was reviewed by using a level-of-evidence framework. Level 1 evidence was a randomized controlled trial (RCT) or meta-analysis or systematic review of RCTs. Level 2 evidence included controlled trials without randomization, cohort, or case-control studies. Level 3 evidence involved consensus statements from experts, descriptive studies, or reports of expert committees. **DATA SYNTHESIS:** Of the 336 articles evaluated, 108 were level 1, 39 were level 2, and 189 were level 3. Recommendations were made for each subtopic according to the level of evidence in the specific area. In cases in which several articles were written on a topic with similar conclusions, we selected the articles with the strongest level of evidence, thereby reducing the total number of references. **CONCLUSIONS:** Frail older patients with hip fracture should receive geriatric rehabilitation. They should also be screened for nutrition, cognition, and depression. Older persons should receive nutritional supplementation when malnourished. If severe dysphagia occurs in stroke patients, gastrostomy tube feeding is superior to nasogastric tube feeding. Copyright (C) 2003 by the American Congress of Rehabilitation Medicine and the American Academy of Physical Medicine and Rehabilitation

REF ID: 1951

QM: Quality Measures

Topic 5: Evaluation/Follow-up

Wenger, N. S., & Rosenfeld, K. (2001 Oct 16). **Quality indicators for end-of-life care in vulnerable elders.** *Annals of Internal Medicine*, 135(8 Pt 2), 677-685.

Journal Article

REF ID: 1955

QM: Quality Measures

Topic 5: Evaluation/Follow-up

Wenger, N. S., & Shekelle, P. G. (2001 Oct 16). **Assessing care of vulnerable elders: ACOVE project overview.**[see comment]. *Annals of Internal Medicine*, 135(8 Pt 2), 642-646.

Journal Article

REF ID: 1914

QM: Quality Measures

Topic 5: Evaluation/Follow-up

Woods, N. F., LaCroix, A. Z., Gray, S. L., Aragaki, A., Cochrane, B. B., & Brunner, R. L. et al. (2005). **Frailty: Emergence and consequences in women aged 65 and older in the women's health initiative observational study.** *Journal of the American Geriatrics Society*, 53(8), 1321-1330.

Journal Article, Equations & Formulas, Research, Tables/Charts

OBJECTIVES: To define frailty using simple indicators; to identify risk factors for frailty as targets for prevention; and to investigate the predictive validity of this frailty classification for death, hospitalization, hip fracture, and activity of daily living (ADL) disability. **DESIGN:** Prospective study, the Women's Health Initiative Observational Study. **SETTING:** Forty U.S. clinical centers.

PARTICIPANTS: Forty thousand six hundred fifty-seven women aged 65 to 79 at baseline.

MEASUREMENTS: Components of frailty included self-reported muscle weakness/impaired walking, exhaustion, low physical activity, and unintended weight loss between baseline and 3 years of follow-up. Death, hip fractures, ADL disability, and hospitalizations were ascertained during an average of 5.9 years of follow-up. **RESULTS:** Baseline frailty was classified in 16.3% of participants, and incident frailty at 3-years was 14.8%. Older age, chronic conditions, smoking, and depressive symptom score were positively associated with incident frailty, whereas income, moderate alcohol use, living alone, and self-reported health were inversely associated. Being underweight, overweight, or obese all carried

significantly higher risk of frailty than normal weight. Baseline frailty independently predicted risk of death (hazard ratio (HR)=1.71, 95% confidence interval (CI)=1.48-1.97), hip fracture (HR=1.57, 95% CI=1.11-2.20), ADL disability (odds ratio (OR)=3.15, 95% CI=2.47-4.02), and hospitalizations (OR=1.95, 95% CI=1.72-2.22) after adjustment for demographic characteristics, health behaviors, disability, and comorbid conditions. **CONCLUSION:** These results support the robustness of the concept of frailty as a geriatric syndrome that predicts several poor outcomes in older women. Underweight, obesity, smoking, and depressive symptoms are strongly associated with the development of frailty and represent important targets for prevention.

REF ID: 1926

Level I: Systematic Reviews

Topic 4.1: Management-General

Yin, T., Zhou, Q., & Bashford, C. (2002 May-Jun). Burden on family members: Caring for frail elderly: A meta-analysis of interventions. *Nursing Research*, 51(3), 199-208.

Evaluation Studies. Journal Article. Meta-Analysis

BACKGROUND: Although multiple interventional approaches to reduce perceived burden among caregivers of the frail elderly have been investigated for over a decade, the effectiveness of those interventions and the benefits of group versus individual interventions are largely unclear.

OBJECTIVES: This meta-analysis was undertaken to (a) assess the effectiveness of group and individual interventions on decreasing burden of caregivers of the frail elderly, and (b) identify factors with potential influence on the magnitude of the effects. **METHOD:** Computerized literature searches and manual searches of published true and quasi-experimental studies with control groups were performed. A coding form was developed to record methodological and other study characteristics, including study design, attrition rate, and reliability and validity of the measures. **RESULTS:** Eighteen group and eight individual interventional studies published from 1985 to 2000 were included. For group interventions, the sample size for individual studies ranged from 20 to 486, with a total of 1,970. The weighted mean effect size was 0.41 (95% CI: 0.32 to 0.51), indicating a significant positive treatment effect. A significant homogeneity test ($Q(17) = 56.37, p < .0001$) indicated that there were variations in effect sizes among the studies attributable to study characteristics. The effect size in the 11 true experimental studies was smaller (M: 0.26, 95% CI: 0.15 to 0.37) but still existed. For individual interventions, the sample sizes ranged from 16 to 168, with a total of 472. The weighted effect sizes were homogeneous with a mean of 0.48 (95% CI: 0.30 to 0.67), indicating a positive treatment effect. **DISCUSSION:** Available evidence supports the premise that both group and individual interventions reduce perceived burden, however, this evidence is inconclusive. Further studies of large scale and high quality designs are needed.